

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: P545778

Luminaire Tested: **FMR-12-2-LD4-2STD-40-UNV-93-87-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: P545778  
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-93-87-EDD  
Description: 1X2 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS 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**

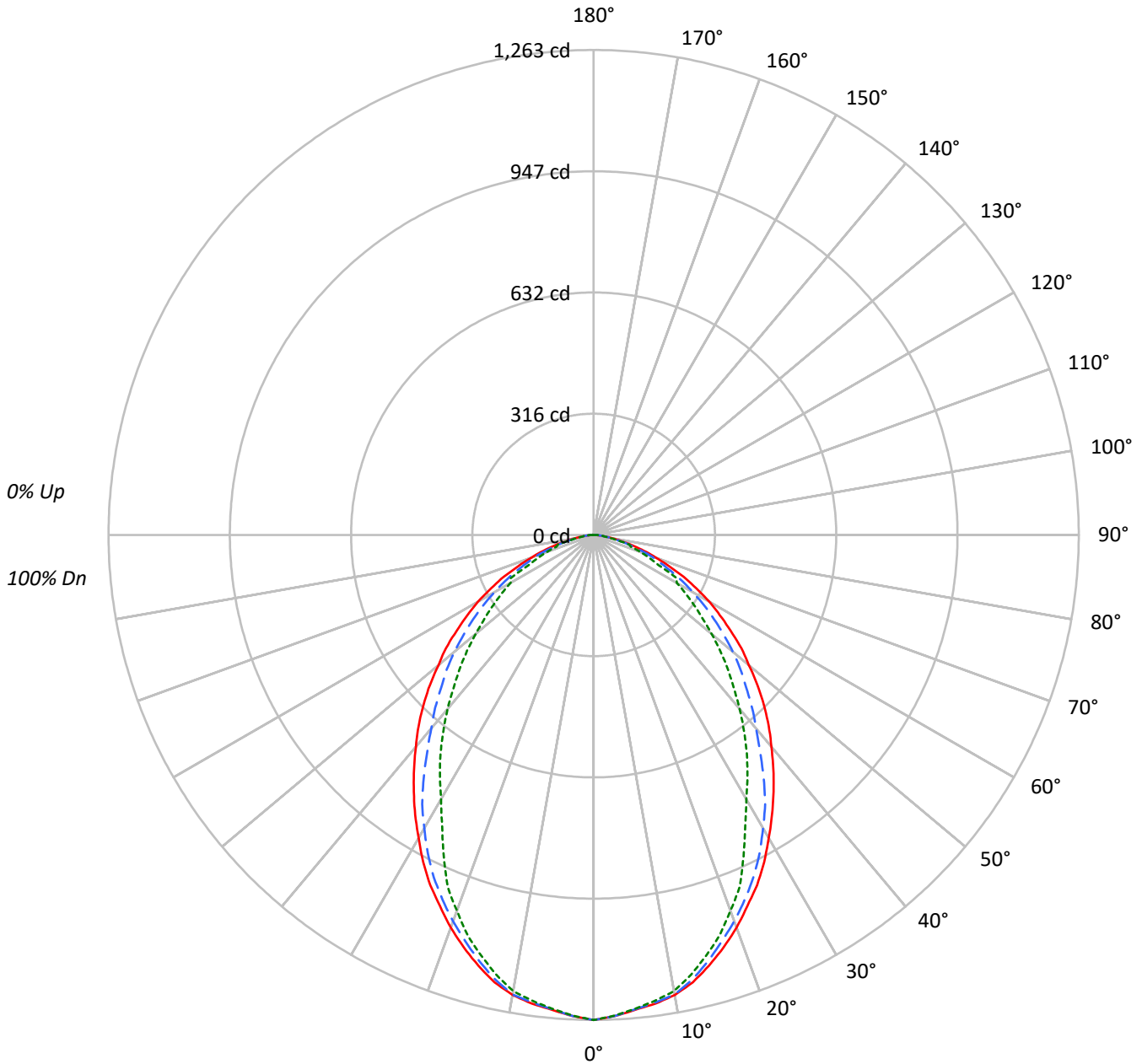
Lumens per Lamp: N/A  
Luminaire Lumens: 2480.0 lumens  
Efficiency: N/A  
Efficacy: 74.5 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct

Input Watts (W): 33.3  
Input Voltage (V): NR  
Input Current (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				20				20	
RC	80				70				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°	6799	6799	6799
5°	6707	6699	6691
10°	6648	6641	6592
15°	6469	6404	6315
20°	6231	6131	5964
25°	5975	5845	5481
30°	5663	5482	4937
35°	5364	5066	4568
40°	5058	4617	4156
45°	4768	4268	3757
50°	4414	3962	3351
55°	4084	3590	3001
60°	3742	3207	2688
65°	3292	2808	2380
70°	2711	2460	2022
75°	2156	1882	1973
80°	1447	1358	1268
85°	902	1081	1260



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	117.6	4.7
10°-20°	322.7	13.0
20°-30°	446.8	18.0
30°-40°	476.4	19.2
40°-50°	434.6	17.5
50°-60°	340.5	13.7
60°-70°	221.9	8.9
70°-80°	98.3	4.0
80°-90°	21.1	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°	887.1	35.8
0°-40°	1363.5	55.0
0°-60°	2138.6	86.2
0°-90°	2480.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2480.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1263	1263	1263	1263	1263	
5°	1241	1240	1240	1238	1238	118
15°	1161	1161	1149	1138	1133	326
25°	1006	1000	984	949	923	462
35°	816	810	771	713	695	510
45°	626	613	561	514	494	483
55°	435	422	383	337	320	390
65°	258	244	220	225	187	255
75°	104	96	90	86	95	111
85°	15	16	18	19	20	20
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1263.3	1263.3	1263.3	1263.3	1263.3
2.5°	1254.5	1254.5	1254.5	1253.1	1253.1
5°	1241.4	1239.9	1239.9	1238.5	1238.5
7.5°	1231.1	1229.7	1228.2	1226.8	1223.8
10°	1216.5	1216.5	1215.1	1207.8	1206.3
12.5°	1193.2	1191.7	1185.9	1175.7	1172.7
15°	1161.0	1161.0	1149.4	1137.7	1133.3
17.5°	1126.0	1124.5	1109.9	1098.2	1092.4
20°	1088.0	1085.1	1070.5	1051.5	1041.3
22.5°	1045.7	1045.7	1028.1	1003.3	993.1
25°	1006.2	1000.4	984.3	949.3	923.0
27.5°	961.0	952.2	934.7	885.0	854.4
30°	911.3	906.9	882.1	817.8	794.5
32.5°	864.6	857.3	831.0	763.8	744.8
35°	816.4	810.5	771.1	712.7	695.2
37.5°	768.2	760.9	711.2	664.5	642.6
40°	720.0	711.2	657.2	614.8	591.5
42.5°	674.7	663.0	610.5	565.2	538.9
45°	626.5	613.4	560.8	514.1	493.6
47.5°	578.3	566.6	518.5	470.3	446.9
50°	527.2	517.0	473.2	425.0	400.2
52.5°	484.9	468.8	426.4	378.3	357.8
55°	435.2	422.1	382.6	337.4	319.8
57.5°	389.9	376.8	340.3	297.9	283.3
60°	347.6	328.6	297.9	261.4	249.7
62.5°	300.9	286.2	260.0	229.3	243.9
65°	258.5	243.9	220.5	224.9	186.9
67.5°	211.8	204.5	184.0	163.6	157.7
70°	172.3	163.6	156.3	134.4	128.5
72.5°	137.3	128.5	118.3	106.6	102.2
75°	103.7	96.4	90.5	86.2	94.9
77.5°	71.6	68.6	64.3	59.9	58.4
80°	46.7	45.3	43.8	42.4	40.9
82.5°	27.7	27.7	27.7	27.7	27.7
85°	14.6	16.1	17.5	19.0	20.4
87.5°	8.8	8.8	10.2	11.7	13.1
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)