

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: P546067

Luminaire Tested: **FMR-12-4-LD4-1STD-40-UNV-93-88-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: P546067
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-93-88-EDD
Description: 1X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS 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

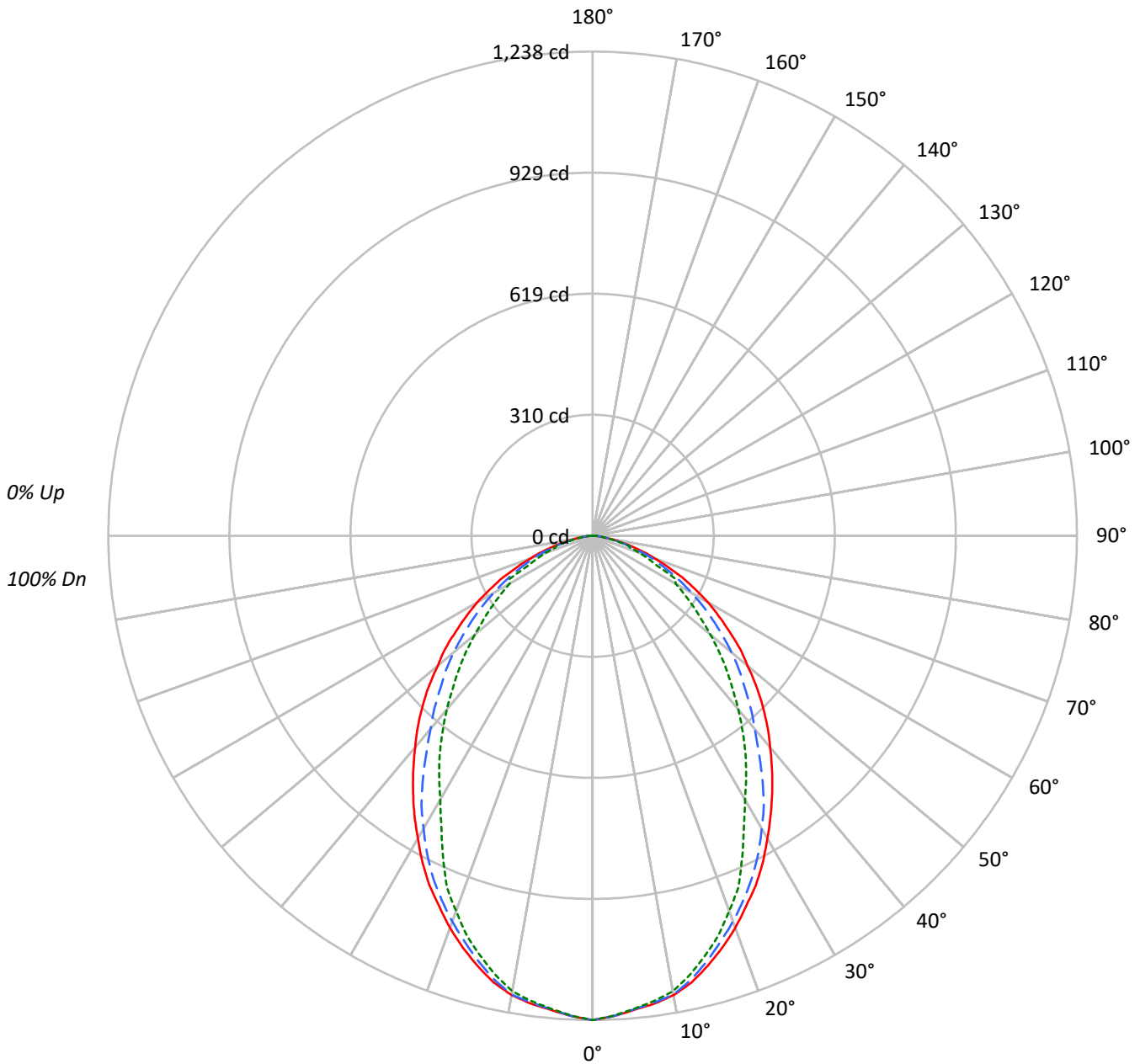
Lumens per Lamp: N/A
Luminaire Lumens: 2431.0 lumens
Efficiency: N/A
Efficacy: 73.0 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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°	3332	3332	3332
5°	3287	3283	3279
10°	3258	3255	3231
15°	3171	3139	3095
20°	3054	3005	2923
25°	2929	2865	2687
30°	2776	2687	2420
35°	2629	2483	2238
40°	2479	2263	2037
45°	2337	2092	1842
50°	2164	1942	1642
55°	2001	1760	1471
60°	1834	1572	1318
65°	1613	1377	1167
70°	1329	1205	991
75°	1056	923	968
80°	710	665	621
85°	442	531	618



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	115.3	4.7
10°-20°	316.4	13.0
20°-30°	438.0	18.0
30°-40°	467.0	19.2
40°-50°	426.0	17.5
50°-60°	333.8	13.7
60°-70°	217.5	8.9
70°-80°	96.4	4.0
80°-90°	20.7	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°	869.6	35.8
0°-40°	1336.6	55.0
0°-60°	2096.4	86.2
0°-90°	2431.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2431.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1238	1238	1238	1238	1238	
5°	1217	1215	1215	1214	1214	116
15°	1138	1138	1127	1115	1111	320
25°	986	981	965	930	905	453
35°	800	794	756	699	681	500
45°	614	601	550	504	484	473
55°	427	414	375	331	314	383
65°	253	239	216	220	183	250
75°	102	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°	1238.3	1238.3	1238.3	1238.3	1238.3
2.5°	1229.7	1229.7	1229.7	1228.3	1228.3
5°	1216.8	1215.4	1215.4	1214.0	1214.0
7.5°	1206.8	1205.4	1204.0	1202.5	1199.7
10°	1192.5	1192.5	1191.1	1183.9	1182.5
12.5°	1169.6	1168.2	1162.4	1152.4	1149.6
15°	1138.1	1138.1	1126.7	1115.2	1110.9
17.5°	1103.8	1102.3	1088.0	1076.6	1070.8
20°	1066.5	1063.7	1049.4	1030.7	1020.7
22.5°	1025.0	1025.0	1007.8	983.5	973.5
25°	986.4	980.6	964.9	930.5	904.8
27.5°	942.0	933.4	916.2	867.5	837.5
30°	893.3	889.0	864.7	801.7	778.8
32.5°	847.5	840.3	814.6	748.7	730.1
35°	800.3	794.5	755.9	698.6	681.4
37.5°	753.0	745.9	697.2	651.4	629.9
40°	705.8	697.2	644.2	602.7	579.8
42.5°	661.4	649.9	598.4	554.0	528.3
45°	614.1	601.3	549.7	503.9	483.9
47.5°	566.9	555.5	508.2	461.0	438.1
50°	516.8	506.8	463.8	416.6	392.3
52.5°	475.3	459.5	418.0	370.8	350.7
55°	426.6	413.7	375.1	330.7	313.5
57.5°	382.2	369.3	333.6	292.0	277.7
60°	340.7	322.1	292.0	256.3	244.8
62.5°	294.9	280.6	254.8	224.8	239.1
65°	253.4	239.1	216.2	220.5	183.2
67.5°	207.6	200.4	180.4	160.3	154.6
70°	168.9	160.3	153.2	131.7	126.0
72.5°	134.6	126.0	116.0	104.5	100.2
75°	101.6	94.5	88.8	84.5	93.1
77.5°	70.1	67.3	63.0	58.7	57.3
80°	45.8	44.4	42.9	41.5	40.1
82.5°	27.2	27.2	27.2	27.2	27.2
85°	14.3	15.7	17.2	18.6	20.0
87.5°	8.6	8.6	10.0	11.5	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)