

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: P545939

Luminaire Tested: **FMR-12-4-LD4-1LO-35-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: P545939
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-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 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

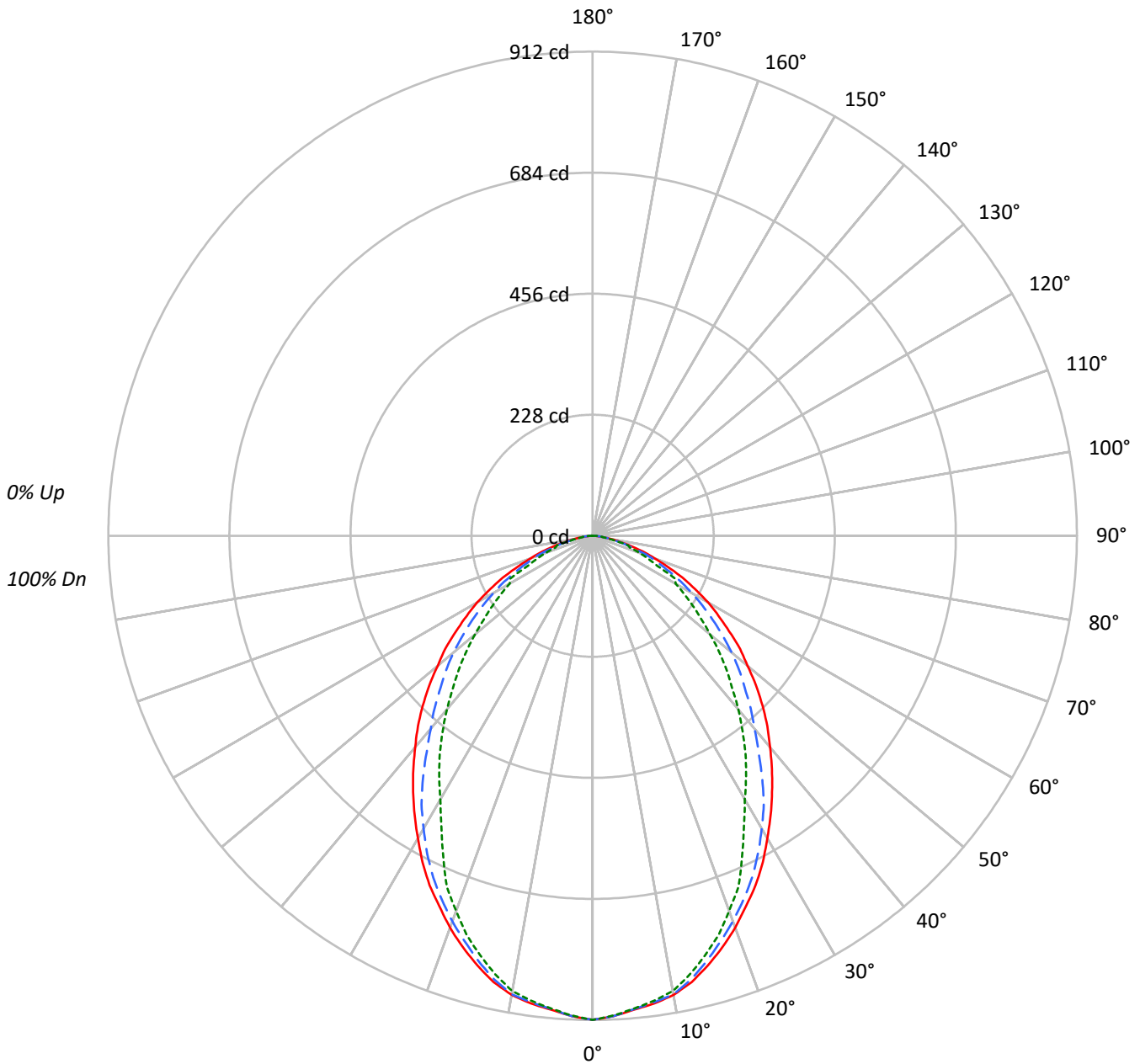
Lumens per Lamp: N/A
Luminaire Lumens: 1790.0 lumens
Efficiency: N/A
Efficacy: 76.5 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 23.4
Input Voltage (V): NR
Input Current (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°	2454	2454	2454
5°	2420	2417	2415
10°	2399	2396	2379
15°	2335	2311	2279
20°	2249	2213	2152
25°	2157	2110	1978
30°	2044	1978	1782
35°	1936	1828	1648
40°	1826	1666	1500
45°	1721	1541	1356
50°	1593	1430	1209
55°	1474	1296	1083
60°	1350	1157	970
65°	1188	1014	859
70°	979	887	730
75°	778	680	712
80°	522	490	457
85°	324	389	457



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	84.9	4.7
10°-20°	232.9	13.0
20°-30°	322.5	18.0
30°-40°	343.9	19.2
40°-50°	313.7	17.5
50°-60°	245.8	13.7
60°-70°	160.2	8.9
70°-80°	71.0	4.0
80°-90°	15.2	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°	640.3	35.8
0°-40°	984.2	55.0
0°-60°	1543.6	86.2
0°-90°	1790.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1790.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	912	912	912	912	912	
5°	896	895	895	894	894	85
15°	838	838	830	821	818	236
25°	726	722	710	685	666	333
35°	589	585	557	514	502	368
45°	452	443	405	371	356	348
55°	314	305	276	244	231	282
65°	187	176	159	162	135	184
75°	75	70	65	62	68	80
85°	10	12	13	14	15	15
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	911.8	911.8	911.8	911.8	911.8
2.5°	905.5	905.5	905.5	904.4	904.4
5°	896.0	894.9	894.9	893.9	893.9
7.5°	888.6	887.6	886.5	885.4	883.3
10°	878.1	878.1	877.0	871.7	870.7
12.5°	861.2	860.2	855.9	848.6	846.4
15°	838.0	838.0	829.6	821.1	818.0
17.5°	812.7	811.7	801.1	792.7	788.5
20°	785.3	783.2	772.7	759.0	751.6
22.5°	754.7	754.7	742.1	724.2	716.8
25°	726.3	722.1	710.5	685.2	666.2
27.5°	693.6	687.3	674.6	638.8	616.7
30°	657.8	654.6	636.7	590.3	573.4
32.5°	624.0	618.8	599.8	551.3	537.6
35°	589.2	585.0	556.6	514.4	501.8
37.5°	554.5	549.2	513.3	479.6	463.8
40°	519.7	513.3	474.3	443.8	426.9
42.5°	487.0	478.6	440.6	407.9	389.0
45°	452.2	442.7	404.8	371.0	356.3
47.5°	417.4	409.0	374.2	339.4	322.6
50°	380.5	373.2	341.5	306.7	288.8
52.5°	350.0	338.4	307.8	273.0	258.3
55°	314.1	304.6	276.2	243.5	230.8
57.5°	281.4	272.0	245.6	215.0	204.5
60°	250.9	237.2	215.0	188.7	180.3
62.5°	217.1	206.6	187.6	165.5	176.0
65°	186.6	176.0	159.2	162.3	134.9
67.5°	152.8	147.6	132.8	118.1	113.8
70°	124.4	118.1	112.8	97.0	92.8
72.5°	99.1	92.8	85.4	76.9	73.8
75°	74.8	69.6	65.4	62.2	68.5
77.5°	51.7	49.5	46.4	43.2	42.2
80°	33.7	32.7	31.6	30.6	29.5
82.5°	20.0	20.0	20.0	20.0	20.0
85°	10.5	11.6	12.6	13.7	14.8
87.5°	6.3	6.3	7.4	8.4	9.5
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)