

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: P546308

Luminaire Tested: **FMR-12-4-LD4-2STD-35-UNV-81-94-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: P546308
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-LD4-2STD-35-UNV-81-94-EDD
Description: 1X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

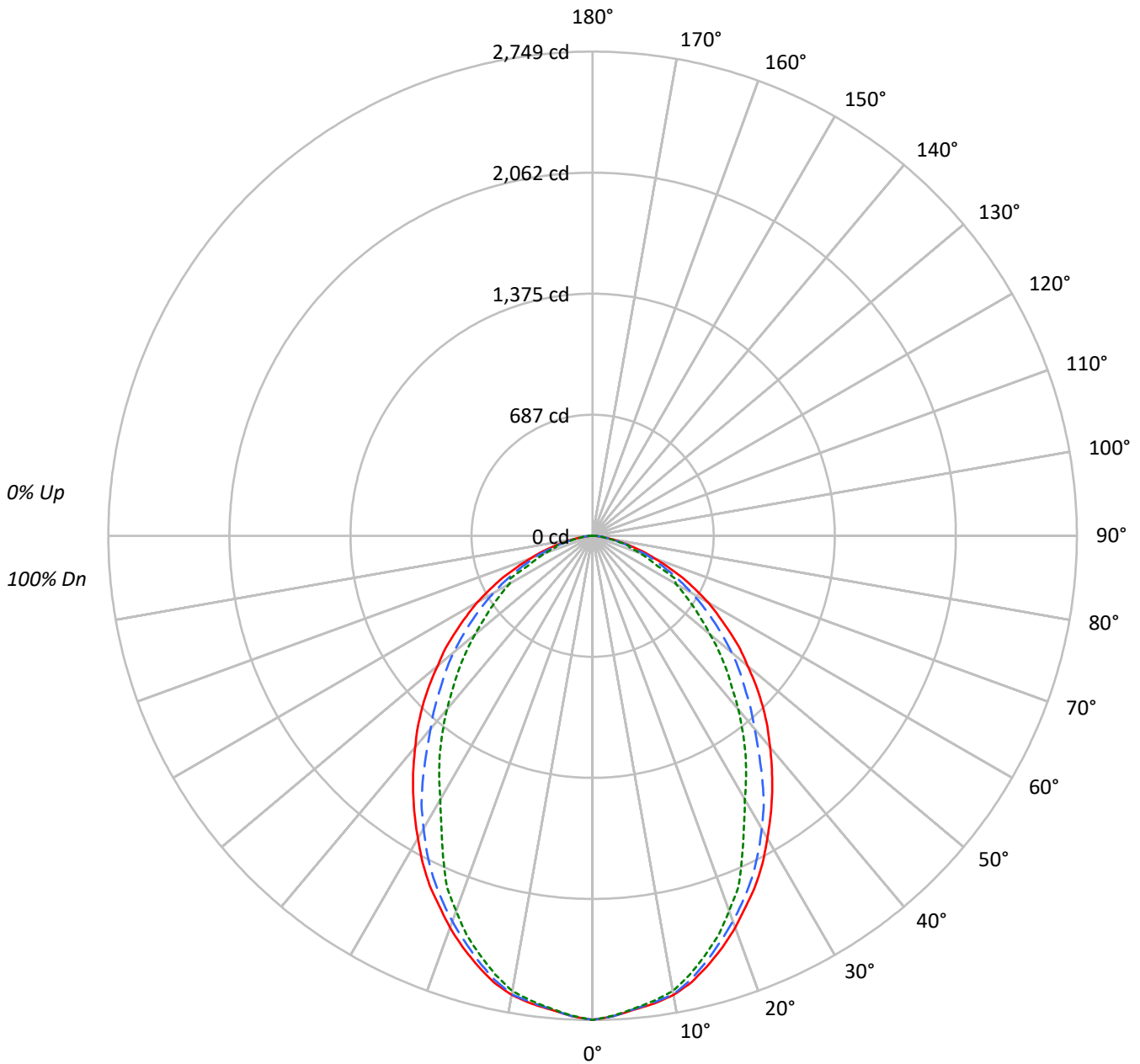
Lumens per Lamp: N/A
Luminaire Lumens: 5396.0 lumens
Efficiency: N/A
Efficacy: 81.0 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 66.6
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°	7397	7397	7397
5°	7296	7287	7279
10°	7233	7224	7172
15°	7038	6967	6869
20°	6779	6670	6488
25°	6501	6359	5963
30°	6161	5964	5371
35°	5835	5512	4969
40°	5503	5023	4521
45°	5188	4644	4087
50°	4802	4310	3645
55°	4442	3906	3265
60°	4070	3489	2925
65°	3581	3055	2590
70°	2950	2675	2200
75°	2346	2048	2147
80°	1576	1477	1379
85°	982	1176	1374



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	255.9	4.7
10°-20°	702.2	13.0
20°-30°	972.1	18.0
30°-40°	1036.6	19.2
40°-50°	945.7	17.5
50°-60°	740.8	13.7
60°-70°	482.9	8.9
70°-80°	213.9	4.0
80°-90°	45.9	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°	1930.2	35.8
0°-40°	2966.8	55.0
0°-60°	4653.3	86.2
0°-90°	5396.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5396.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2749	2749	2749	2749	2749	
5°	2701	2698	2698	2695	2695	256
15°	2526	2526	2501	2475	2466	710
25°	2189	2177	2142	2066	2008	1005
35°	1776	1764	1678	1551	1513	1111
45°	1363	1335	1220	1118	1074	1050
55°	947	918	832	734	696	849
65°	562	531	480	489	407	554
75°	226	210	197	188	206	242
85°	32	35	38	41	44	44
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2748.7	2748.7	2748.7	2748.7	2748.7
2.5°	2729.6	2729.6	2729.6	2726.4	2726.4
5°	2701.0	2697.8	2697.8	2694.6	2694.6
7.5°	2678.7	2675.6	2672.4	2669.2	2662.9
10°	2647.0	2647.0	2643.8	2627.9	2624.7
12.5°	2596.1	2592.9	2580.2	2558.0	2551.6
15°	2526.2	2526.2	2500.8	2475.4	2465.8
17.5°	2450.0	2446.8	2415.0	2389.6	2376.9
20°	2367.3	2361.0	2329.2	2287.9	2265.7
22.5°	2275.2	2275.2	2237.1	2183.0	2160.8
25°	2189.4	2176.7	2141.7	2065.5	2008.3
27.5°	2090.9	2071.8	2033.7	1925.6	1858.9
30°	1982.8	1973.3	1919.3	1779.5	1728.6
32.5°	1881.2	1865.3	1808.1	1661.9	1620.6
35°	1776.3	1763.6	1677.8	1550.7	1512.6
37.5°	1671.4	1655.5	1547.5	1445.8	1398.2
40°	1566.6	1547.5	1429.9	1337.8	1286.9
42.5°	1468.1	1442.6	1328.2	1229.7	1172.5
45°	1363.2	1334.6	1220.2	1118.5	1074.0
47.5°	1258.3	1232.9	1128.1	1023.2	972.4
50°	1147.1	1124.9	1029.6	924.7	870.7
52.5°	1055.0	1020.0	927.9	823.0	778.5
55°	946.9	918.3	832.5	734.0	695.9
57.5°	848.4	819.8	740.4	648.2	616.5
60°	756.3	715.0	648.2	568.8	543.4
62.5°	654.6	622.8	565.6	498.9	530.7
65°	562.4	530.7	479.8	489.4	406.7
67.5°	460.8	444.9	400.4	355.9	343.2
70°	375.0	355.9	340.0	292.3	279.6
72.5°	298.7	279.6	257.4	232.0	222.4
75°	225.6	209.7	197.0	187.5	206.5
77.5°	155.7	149.3	139.8	130.3	127.1
80°	101.7	98.5	95.3	92.2	89.0
82.5°	60.4	60.4	60.4	60.4	60.4
85°	31.8	35.0	38.1	41.3	44.5
87.5°	19.1	19.1	22.2	25.4	28.6
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)