

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: P545922

Luminaire Tested: **FMR-12-4-LD4-1LO-35-UNV-81-87-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: P545922
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-81-87-EDD
Description: 1X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

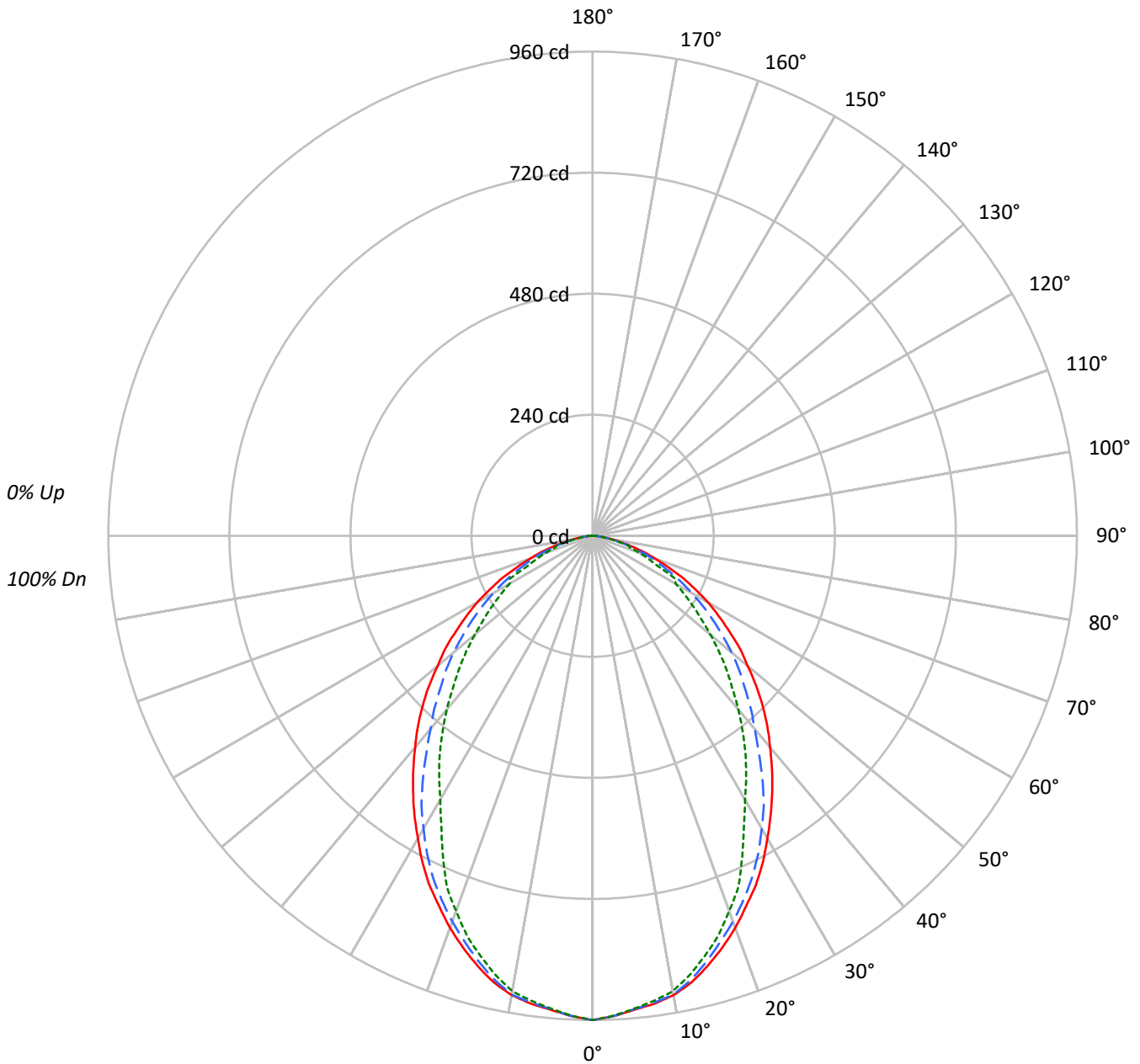
Lumens per Lamp: N/A
Luminaire Lumens: 1885.0 lumens
Efficiency: N/A
Efficacy: 80.6 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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°	2584	2584	2584
5°	2549	2546	2543
10°	2527	2524	2505
15°	2459	2434	2400
20°	2368	2330	2267
25°	2271	2222	2083
30°	2152	2083	1876
35°	2038	1925	1736
40°	1923	1755	1579
45°	1812	1622	1428
50°	1677	1506	1274
55°	1552	1364	1141
60°	1422	1219	1021
65°	1251	1067	905
70°	1031	935	769
75°	819	715	751
80°	550	516	482
85°	343	411	479



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	89.4	4.7
10°-20°	245.3	13.0
20°-30°	339.6	18.0
30°-40°	362.1	19.2
40°-50°	330.4	17.5
50°-60°	258.8	13.7
60°-70°	168.7	8.9
70°-80°	74.7	4.0
80°-90°	16.0	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°	674.3	35.8
0°-40°	1036.4	55.0
0°-60°	1625.5	86.2
0°-90°	1885.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1885.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	960	960	960	960	960	
5°	944	942	942	941	941	90
15°	882	882	874	865	861	248
25°	765	760	748	722	702	351
35°	620	616	586	542	528	388
45°	476	466	426	391	375	367
55°	331	321	291	256	243	297
65°	196	185	168	171	142	194
75°	79	73	69	66	72	84
85°	11	12	13	14	16	15
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	960.2	960.2	960.2	960.2	960.2
2.5°	953.5	953.5	953.5	952.4	952.4
5°	943.5	942.4	942.4	941.3	941.3
7.5°	935.8	934.7	933.6	932.4	930.2
10°	924.7	924.7	923.6	918.0	916.9
12.5°	906.9	905.8	901.4	893.6	891.4
15°	882.5	882.5	873.6	864.7	861.4
17.5°	855.8	854.7	843.6	834.8	830.3
20°	827.0	824.8	813.7	799.2	791.5
22.5°	794.8	794.8	781.5	762.6	754.8
25°	764.8	760.4	748.2	721.5	701.6
27.5°	730.4	723.8	710.4	672.7	649.4
30°	692.7	689.3	670.5	621.6	603.9
32.5°	657.1	651.6	631.6	580.6	566.1
35°	620.5	616.1	586.1	541.7	528.4
37.5°	583.9	578.3	540.6	505.1	488.4
40°	547.3	540.6	499.5	467.3	449.6
42.5°	512.8	504.0	464.0	429.6	409.6
45°	476.2	466.2	426.3	390.7	375.2
47.5°	439.6	430.7	394.1	357.4	339.7
50°	400.7	393.0	359.7	323.0	304.2
52.5°	368.5	356.3	324.1	287.5	272.0
55°	330.8	320.8	290.8	256.4	243.1
57.5°	296.4	286.4	258.6	226.5	215.3
60°	264.2	249.8	226.5	198.7	189.8
62.5°	228.7	217.6	197.6	174.3	185.4
65°	196.5	185.4	167.6	170.9	142.1
67.5°	161.0	155.4	139.9	124.3	119.9
70°	131.0	124.3	118.8	102.1	97.7
72.5°	104.3	97.7	89.9	81.0	77.7
75°	78.8	73.3	68.8	65.5	72.2
77.5°	54.4	52.2	48.8	45.5	44.4
80°	35.5	34.4	33.3	32.2	31.1
82.5°	21.1	21.1	21.1	21.1	21.1
85°	11.1	12.2	13.3	14.4	15.5
87.5°	6.7	6.7	7.8	8.9	10.0
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)