

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: P546345

Luminaire Tested: **FMR-12-4-LD4-2STD-40-UNV-82-86-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: P546345
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-40-UNV-82-86-EDD
Description: 1X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

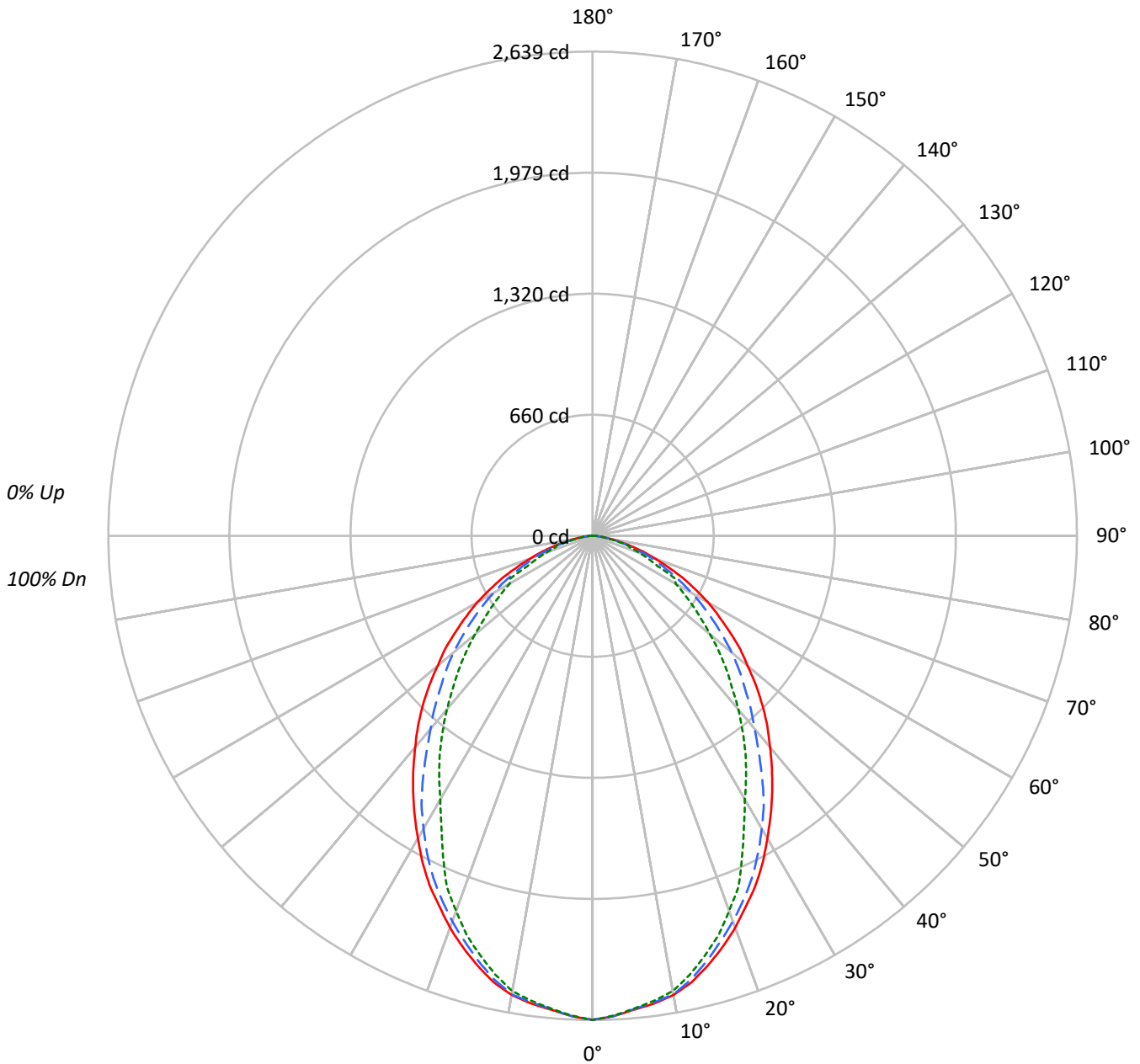
Lumens per Lamp: N/A
Luminaire Lumens: 5180.0 lumens
Efficiency: N/A
Efficacy: 77.8 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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°	7100	7100	7100
5°	7004	6996	6988
10°	6943	6935	6885
15°	6756	6688	6595
20°	6508	6403	6229
25°	6240	6105	5724
30°	5915	5725	5156
35°	5602	5291	4770
40°	5283	4822	4340
45°	4980	4458	3924
50°	4610	4137	3499
55°	4265	3750	3134
60°	3907	3349	2807
65°	3438	2933	2486
70°	2832	2568	2112
75°	2252	1966	2062
80°	1512	1418	1323
85°	942	1130	1318



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	245.6	4.7
10°-20°	674.1	13.0
20°-30°	933.2	18.0
30°-40°	995.1	19.2
40°-50°	907.8	17.5
50°-60°	711.2	13.7
60°-70°	463.5	8.9
70°-80°	205.4	4.0
80°-90°	44.1	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°	1852.9	35.8
0°-40°	2848.0	55.0
0°-60°	4467.0	86.2
0°-90°	5180.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5180.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2639	2639	2639	2639	2639	
5°	2593	2590	2590	2587	2587	246
15°	2425	2425	2401	2376	2367	682
25°	2102	2090	2056	1983	1928	965
35°	1705	1693	1611	1489	1452	1066
45°	1309	1281	1171	1074	1031	1008
55°	909	882	799	705	668	815
65°	540	509	461	470	390	532
75°	217	201	189	180	198	232
85°	30	34	37	40	43	42
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2638.6	2638.6	2638.6	2638.6	2638.6
2.5°	2620.3	2620.3	2620.3	2617.3	2617.3
5°	2592.9	2589.8	2589.8	2586.8	2586.8
7.5°	2571.5	2568.5	2565.4	2562.4	2556.3
10°	2541.0	2541.0	2538.0	2522.7	2519.7
12.5°	2492.2	2489.2	2476.9	2455.6	2449.5
15°	2425.1	2425.1	2400.7	2376.3	2367.1
17.5°	2351.9	2348.8	2318.3	2293.9	2281.7
20°	2272.6	2266.5	2236.0	2196.3	2175.0
22.5°	2184.1	2184.1	2147.5	2095.6	2074.3
25°	2101.7	2089.5	2056.0	1982.8	1927.9
27.5°	2007.2	1988.9	1952.3	1848.6	1784.5
30°	1903.5	1894.3	1842.5	1708.2	1659.4
32.5°	1805.9	1790.6	1735.7	1595.4	1555.7
35°	1705.2	1693.0	1610.6	1488.6	1452.0
37.5°	1604.5	1589.3	1485.6	1387.9	1342.2
40°	1503.9	1485.6	1372.7	1284.2	1235.4
42.5°	1409.3	1384.9	1275.1	1180.5	1125.6
45°	1308.6	1281.2	1171.4	1073.8	1031.0
47.5°	1208.0	1183.6	1082.9	982.2	933.4
50°	1101.2	1079.9	988.3	887.7	835.8
52.5°	1012.7	979.2	890.7	790.1	747.4
55°	909.0	881.6	799.2	704.6	668.0
57.5°	814.5	787.0	710.8	622.3	591.8
60°	726.0	686.3	622.3	546.0	521.6
62.5°	628.4	597.9	543.0	478.9	509.4
65°	539.9	509.4	460.6	469.8	390.5
67.5°	442.3	427.1	384.4	341.6	329.4
70°	360.0	341.6	326.4	280.6	268.4
72.5°	286.7	268.4	247.1	222.7	213.5
75°	216.6	201.3	189.1	180.0	198.3
77.5°	149.5	143.4	134.2	125.1	122.0
80°	97.6	94.6	91.5	88.5	85.4
82.5°	58.0	58.0	58.0	58.0	58.0
85°	30.5	33.6	36.6	39.7	42.7
87.5°	18.3	18.3	21.4	24.4	27.5
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)