

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: P546127

Luminaire Tested: **FMR-12-4-LD4-2HI-35-UNV-93-84-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: P546127
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-LD4-2HI-35-UNV-93-84-EDD
Description: 1X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

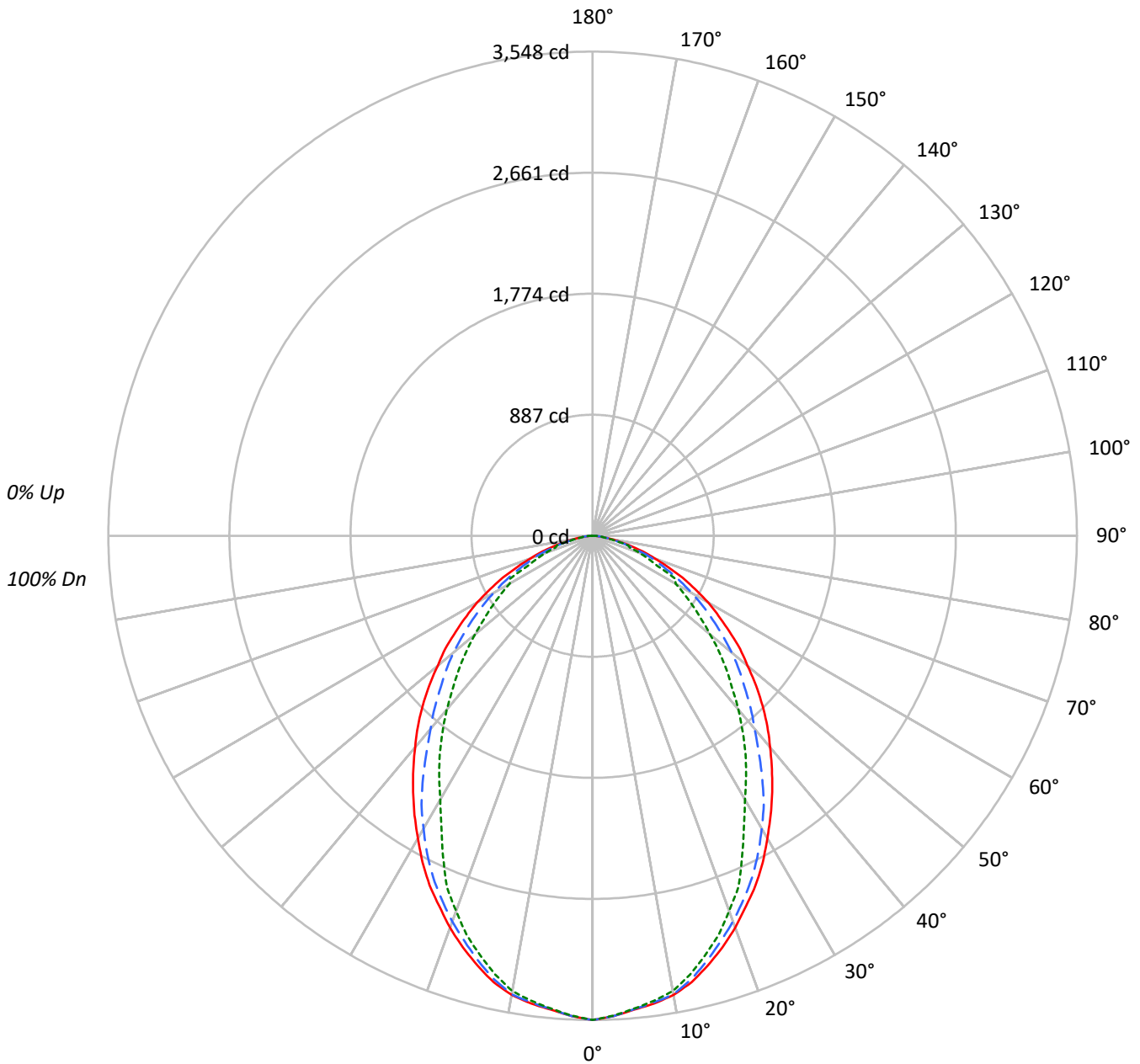
Lumens per Lamp: N/A
Luminaire Lumens: 6965.0 lumens
Efficiency: N/A
Efficacy: 80.6 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 86.4
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°	9547	9547	9547
5°	9418	9407	9396
10°	9336	9325	9257
15°	9084	8993	8867
20°	8751	8610	8375
25°	8391	8208	7697
30°	7953	7698	6933
35°	7532	7114	6414
40°	7103	6484	5835
45°	6696	5994	5276
50°	6199	5563	4705
55°	5735	5042	4214
60°	5254	4503	3775
65°	4623	3943	3343
70°	3808	3453	2840
75°	3028	2644	2772
80°	2035	1906	1779
85°	1266	1519	1772



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	330.3	4.7
10°-20°	906.4	13.0
20°-30°	1254.8	18.0
30°-40°	1338.0	19.2
40°-50°	1220.6	17.5
50°-60°	956.3	13.7
60°-70°	623.3	8.9
70°-80°	276.1	4.0
80°-90°	59.3	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°	2491.4	35.8
0°-40°	3829.4	55.0
0°-60°	6006.3	86.2
0°-90°	6965.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6965.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3548	3548	3548	3548	3548	
5°	3486	3482	3482	3478	3478	331
15°	3261	3261	3228	3195	3183	917
25°	2826	2810	2764	2666	2592	1297
35°	2293	2276	2166	2002	1952	1433
45°	1760	1723	1575	1444	1386	1355
55°	1222	1185	1075	948	898	1096
65°	726	685	619	632	525	715
75°	291	271	254	242	267	312
85°	41	45	49	53	57	57
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3547.9	3547.9	3547.9	3547.9	3547.9
2.5°	3523.3	3523.3	3523.3	3519.2	3519.2
5°	3486.4	3482.3	3482.3	3478.2	3478.2
7.5°	3457.6	3453.5	3449.4	3445.3	3437.1
10°	3416.6	3416.6	3412.5	3392.0	3387.9
12.5°	3351.0	3346.9	3330.5	3301.8	3293.6
15°	3260.8	3260.8	3228.0	3195.1	3182.8
17.5°	3162.3	3158.2	3117.2	3084.4	3068.0
20°	3055.7	3047.5	3006.5	2953.1	2924.4
22.5°	2936.7	2936.7	2887.5	2817.8	2789.1
25°	2826.0	2809.6	2764.5	2666.0	2592.2
27.5°	2698.8	2674.2	2625.0	2485.6	2399.4
30°	2559.4	2547.1	2477.4	2296.9	2231.3
32.5°	2428.1	2407.6	2333.8	2145.1	2091.8
35°	2292.8	2276.4	2165.6	2001.6	1952.4
37.5°	2157.4	2136.9	1997.5	1866.2	1804.7
40°	2022.1	1997.5	1845.7	1726.8	1661.1
42.5°	1894.9	1862.1	1714.5	1587.3	1513.5
45°	1759.6	1722.7	1575.0	1443.8	1386.3
47.5°	1624.2	1591.4	1456.1	1320.7	1255.1
50°	1480.7	1452.0	1328.9	1193.6	1123.8
52.5°	1361.7	1316.6	1197.7	1062.3	1004.9
55°	1222.3	1185.4	1074.6	947.5	898.2
57.5°	1095.1	1058.2	955.7	836.7	795.7
60°	976.2	922.9	836.7	734.2	701.4
62.5°	844.9	803.9	730.1	644.0	685.0
65°	726.0	685.0	619.3	631.6	525.0
67.5°	594.7	574.2	516.8	459.4	443.0
70°	484.0	459.4	438.9	377.3	360.9
72.5°	385.5	360.9	332.2	299.4	287.1
75°	291.2	270.7	254.3	242.0	266.6
77.5°	201.0	192.8	180.5	168.2	164.1
80°	131.3	127.1	123.0	118.9	114.8
82.5°	77.9	77.9	77.9	77.9	77.9
85°	41.0	45.1	49.2	53.3	57.4
87.5°	24.6	24.6	28.7	32.8	36.9
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)