

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: P546137

Luminaire Tested: **FMR-12-4-LD4-2HI-40-UNV-80-86-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: P546137
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-40-UNV-80-86-EDD
Description: 1X4 FMR TROFFER WITH .125 PRISMATIC ACRYLIC 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

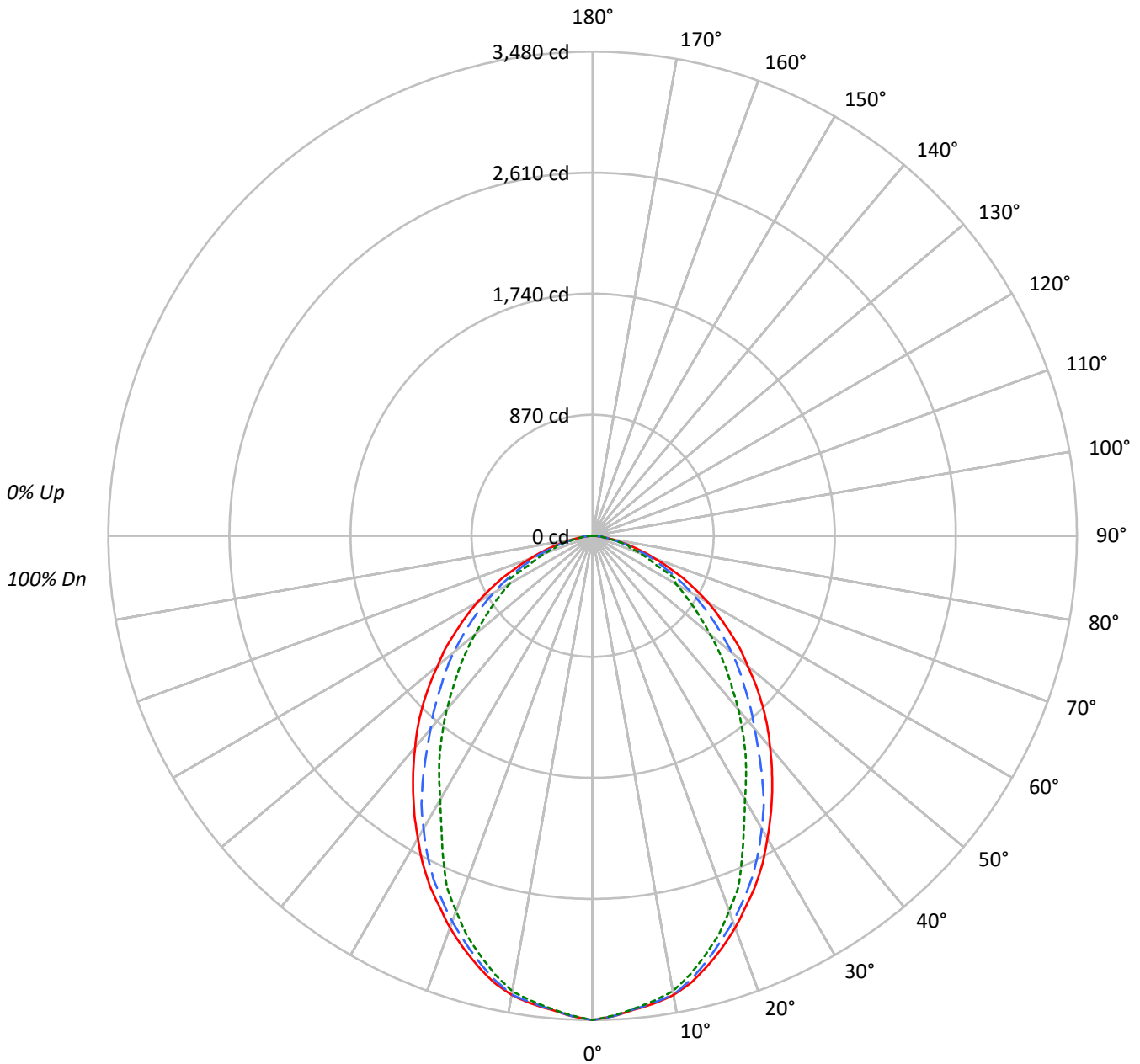
Lumens per Lamp: N/A
Luminaire Lumens: 6832.0 lumens
Efficiency: N/A
Efficacy: 79.1 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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

TEST NUMBER: P546137

CATALOG NUMBER: FMR-12-4-LD4-2HI-40-UNV-80-86-EDD

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°	9365	9365	9365
5°	9238	9227	9216
10°	9158	9147	9081
15°	8911	8821	8698
20°	8583	8445	8215
25°	8231	8051	7550
30°	7801	7551	6801
35°	7388	6978	6291
40°	6968	6360	5724
45°	6568	5879	5175
50°	6080	5457	4615
55°	5625	4945	4134
60°	5153	4417	3703
65°	4534	3868	3279
70°	3735	3387	2785
75°	2970	2593	2719
80°	1994	1870	1746
85°	1241	1491	1738



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	324.0	4.7
10°-20°	889.1	13.0
20°-30°	1230.8	18.0
30°-40°	1312.4	19.2
40°-50°	1197.3	17.5
50°-60°	938.0	13.7
60°-70°	611.4	8.9
70°-80°	270.8	4.0
80°-90°	58.1	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°	2443.9	35.8
0°-40°	3756.3	55.0
0°-60°	5891.6	86.2
0°-90°	6832.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6832.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3480	3480	3480	3480	3480	
5°	3420	3416	3416	3412	3412	325
15°	3198	3198	3166	3134	3122	899
25°	2772	2756	2712	2615	2543	1273
35°	2249	2233	2124	1963	1915	1406
45°	1726	1690	1545	1416	1360	1330
55°	1199	1163	1054	929	881	1075
65°	712	672	608	620	515	702
75°	286	266	249	237	262	306
85°	40	44	48	52	56	56
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3480.1	3480.1	3480.1	3480.1	3480.1
2.5°	3456.0	3456.0	3456.0	3452.0	3452.0
5°	3419.8	3415.8	3415.8	3411.7	3411.7
7.5°	3391.6	3387.6	3383.6	3379.5	3371.5
10°	3351.4	3351.4	3347.4	3327.2	3323.2
12.5°	3287.0	3283.0	3266.9	3238.7	3230.7
15°	3198.5	3198.5	3166.3	3134.1	3122.1
17.5°	3101.9	3097.9	3057.7	3025.5	3009.4
20°	2997.3	2989.3	2949.1	2896.8	2868.6
22.5°	2880.7	2880.7	2832.4	2764.0	2735.8
25°	2772.0	2755.9	2711.7	2615.1	2542.7
27.5°	2647.3	2623.2	2574.9	2438.1	2353.6
30°	2510.5	2498.5	2430.1	2253.0	2188.7
32.5°	2381.8	2361.7	2289.2	2104.2	2051.9
35°	2249.0	2232.9	2124.3	1963.4	1915.1
37.5°	2116.2	2096.1	1959.3	1830.6	1770.2
40°	1983.5	1959.3	1810.5	1693.8	1629.4
42.5°	1858.8	1826.6	1681.7	1557.0	1484.6
45°	1726.0	1689.8	1544.9	1416.2	1359.9
47.5°	1593.2	1561.0	1428.3	1295.5	1231.1
50°	1452.4	1424.2	1303.5	1170.8	1102.4
52.5°	1335.7	1291.5	1174.8	1042.0	985.7
55°	1198.9	1162.7	1054.1	929.4	881.1
57.5°	1074.2	1038.0	937.4	820.7	780.5
60°	957.5	905.2	820.7	720.2	688.0
62.5°	828.8	788.6	716.1	631.7	671.9
65°	712.1	671.9	607.5	619.6	515.0
67.5°	583.4	563.3	506.9	450.6	434.5
70°	474.7	450.6	430.5	370.1	354.0
72.5°	378.2	354.0	325.9	293.7	281.6
75°	285.7	265.5	249.4	237.4	261.5
77.5°	197.1	189.1	177.0	165.0	160.9
80°	128.7	124.7	120.7	116.7	112.7
82.5°	76.4	76.4	76.4	76.4	76.4
85°	40.2	44.3	48.3	52.3	56.3
87.5°	24.1	24.1	28.2	32.2	36.2
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)