

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: P546044

Luminaire Tested: **FMR-12-4-LD4-1STD-40-UNV-80-94-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: P546044
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-LD4-1STD-40-UNV-80-94-EDD
Description: 1X4 FMR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .187 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

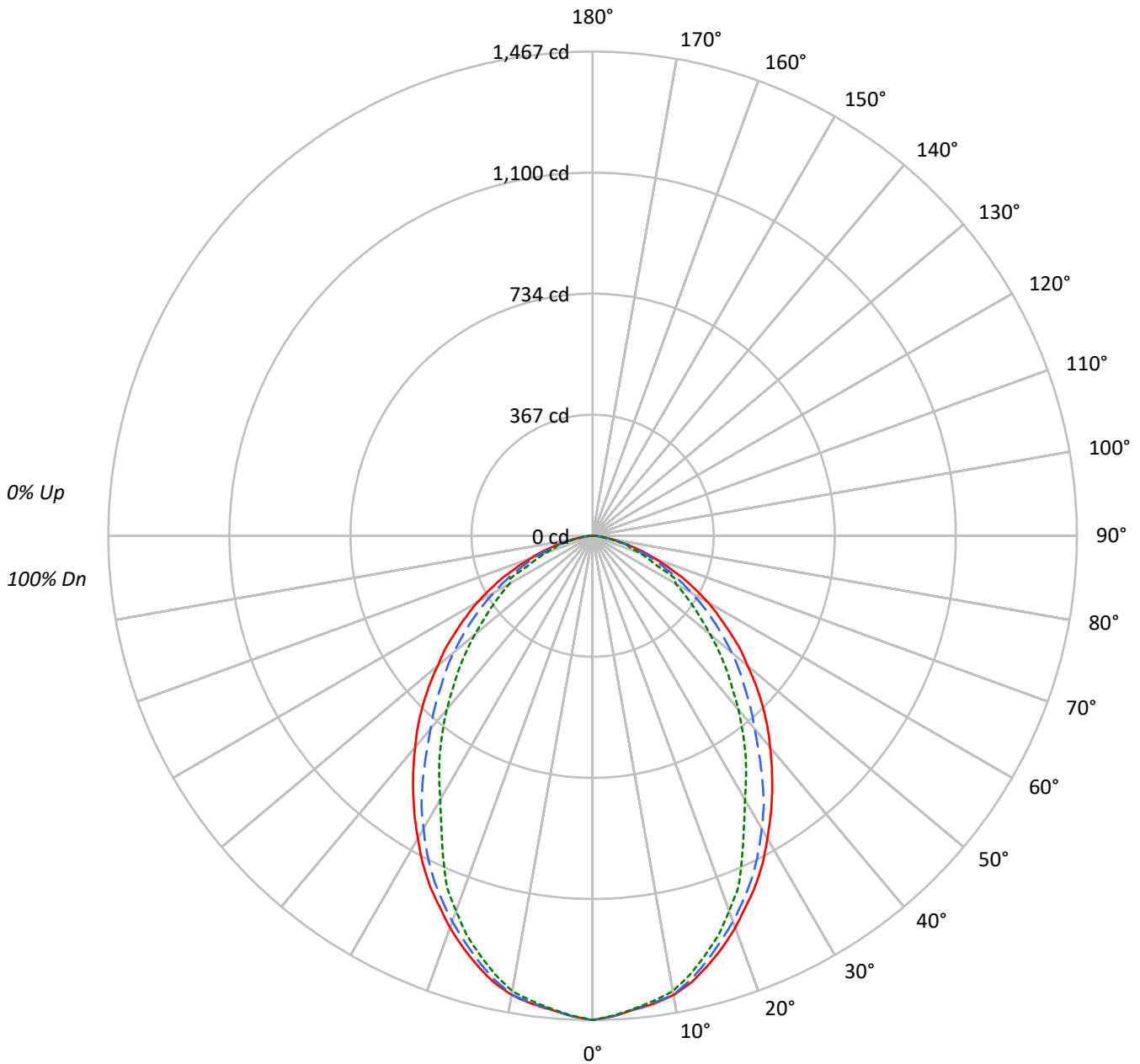
Lumens per Lamp: N/A
Luminaire Lumens: 2880.0 lumens
Efficiency: N/A
Efficacy: 86.5 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 33.3
Input Voltage (V): NR
Input Current (A_{in}): 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: P546044

CATALOG NUMBER: FMR-12-4-LD4-1STD-40-UNV-80-94-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°	3948	3948	3948
5°	3894	3890	3885
10°	3860	3856	3828
15°	3756	3718	3667
20°	3618	3560	3463
25°	3469	3394	3183
30°	3288	3183	2867
35°	3115	2942	2652
40°	2937	2681	2413
45°	2769	2479	2181
50°	2563	2300	1945
55°	2371	2085	1742
60°	2172	1862	1561
65°	1911	1631	1382
70°	1574	1428	1174
75°	1252	1094	1146
80°	841	789	736
85°	525	630	732



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	136.6	4.7
10°-20°	374.8	13.0
20°-30°	518.9	18.0
30°-40°	553.2	19.2
40°-50°	504.7	17.5
50°-60°	395.4	13.7
60°-70°	257.7	8.9
70°-80°	114.2	4.0
80°-90°	24.5	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°	1030.2	35.8
0°-40°	1583.5	55.0
0°-60°	2483.6	86.2
0°-90°	2880.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2880.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1467	1467	1467	1467	1467	
5°	1442	1440	1440	1438	1438	137
15°	1348	1348	1335	1321	1316	379
25°	1168	1162	1143	1102	1072	536
35°	948	941	896	828	807	593
45°	728	712	651	597	573	560
55°	505	490	444	392	371	453
65°	300	283	256	261	217	296
75°	120	112	105	100	110	129
85°	17	19	20	22	24	24
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1467.0	1467.0	1467.0	1467.0	1467.0
2.5°	1456.9	1456.9	1456.9	1455.2	1455.2
5°	1441.6	1439.9	1439.9	1438.2	1438.2
7.5°	1429.7	1428.0	1426.3	1424.6	1421.2
10°	1412.8	1412.8	1411.1	1402.6	1400.9
12.5°	1385.6	1383.9	1377.1	1365.3	1361.9
15°	1348.3	1348.3	1334.7	1321.2	1316.1
17.5°	1307.6	1305.9	1289.0	1275.4	1268.6
20°	1263.5	1260.1	1243.2	1221.1	1209.2
22.5°	1214.3	1214.3	1194.0	1165.1	1153.3
25°	1168.5	1161.8	1143.1	1102.4	1071.9
27.5°	1116.0	1105.8	1085.4	1027.8	992.2
30°	1058.3	1053.2	1024.4	949.8	922.6
32.5°	1004.0	995.5	965.0	887.0	865.0
35°	948.1	941.3	895.5	827.6	807.3
37.5°	892.1	883.6	825.9	771.7	746.2
40°	836.1	825.9	763.2	714.0	686.9
42.5°	783.5	770.0	708.9	656.3	625.8
45°	727.6	712.3	651.3	597.0	573.2
47.5°	671.6	658.0	602.1	546.1	519.0
50°	612.3	600.4	549.5	493.5	464.7
52.5°	563.1	544.4	495.2	439.3	415.5
55°	505.4	490.1	444.4	391.8	371.4
57.5°	452.8	437.6	395.2	346.0	329.0
60°	403.6	381.6	346.0	303.6	290.0
62.5°	349.4	332.4	301.9	266.3	283.2
65°	300.2	283.2	256.1	261.2	217.1
67.5°	245.9	237.4	213.7	190.0	183.2
70°	200.1	190.0	181.5	156.0	149.2
72.5°	159.4	149.2	137.4	123.8	118.7
75°	120.4	111.9	105.2	100.1	110.2
77.5°	83.1	79.7	74.6	69.5	67.8
80°	54.3	52.6	50.9	49.2	47.5
82.5°	32.2	32.2	32.2	32.2	32.2
85°	17.0	18.7	20.4	22.0	23.7
87.5°	10.2	10.2	11.9	13.6	15.3
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)