

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: P546025

Luminaire Tested: **FMR-12-4-LD4-1STD-35-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: P546025
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-35-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 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

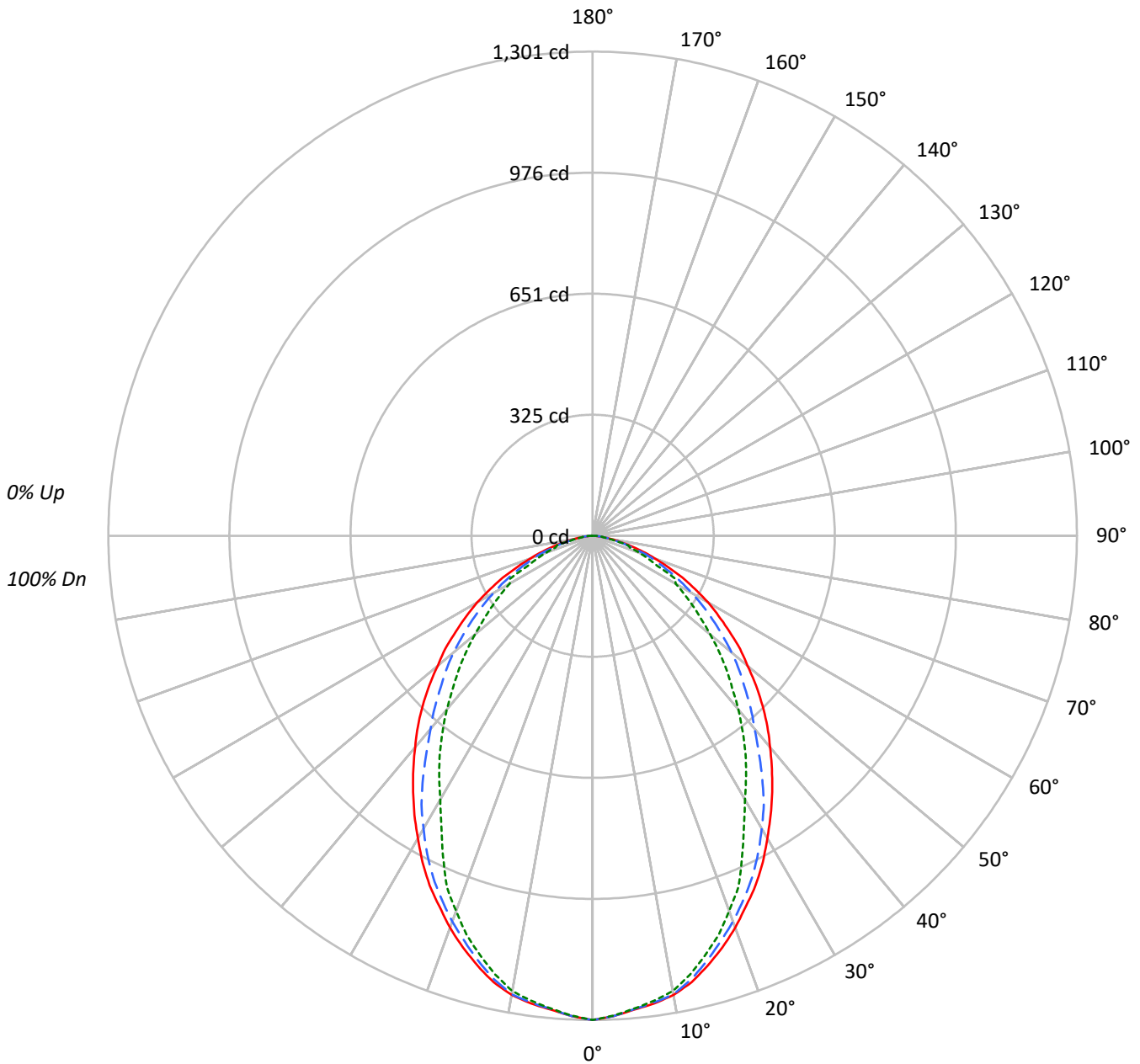
Lumens per Lamp: N/A
Luminaire Lumens: 2554.0 lumens
Efficiency: N/A
Efficacy: 76.7 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 33.3
Input Voltage (V): NR
Input Current (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°	3501	3501	3501
5°	3453	3449	3445
10°	3423	3419	3395
15°	3331	3298	3251
20°	3209	3157	3071
25°	3077	3010	2822
30°	2916	2823	2542
35°	2762	2609	2352
40°	2605	2377	2140
45°	2455	2198	1935
50°	2273	2040	1725
55°	2103	1849	1545
60°	1927	1651	1384
65°	1695	1446	1226
70°	1397	1266	1042
75°	1110	969	1017
80°	745	699	652
85°	463	556	651



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	121.1	4.7
10°-20°	332.4	13.0
20°-30°	460.1	18.0
30°-40°	490.6	19.2
40°-50°	447.6	17.5
50°-60°	350.7	13.7
60°-70°	228.5	8.9
70°-80°	101.3	4.0
80°-90°	21.7	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°	913.6	35.8
0°-40°	1404.2	55.0
0°-60°	2202.5	86.2
0°-90°	2554.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2554.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1301	1301	1301	1301	1301	
5°	1278	1277	1277	1275	1275	121
15°	1196	1196	1184	1172	1167	336
25°	1036	1030	1014	978	950	476
35°	841	835	794	734	716	526
45°	645	632	578	529	508	497
55°	448	435	394	347	329	402
65°	266	251	227	232	192	262
75°	107	99	93	89	98	114
85°	15	16	18	20	21	21
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1301.0	1301.0	1301.0	1301.0	1301.0
2.5°	1291.9	1291.9	1291.9	1290.4	1290.4
5°	1278.4	1276.9	1276.9	1275.4	1275.4
7.5°	1267.9	1266.4	1264.9	1263.4	1260.4
10°	1252.8	1252.8	1251.3	1243.8	1242.3
12.5°	1228.8	1227.3	1221.3	1210.7	1207.7
15°	1195.7	1195.7	1183.7	1171.6	1167.1
17.5°	1159.6	1158.1	1143.1	1131.0	1125.0
20°	1120.5	1117.5	1102.4	1082.9	1072.4
22.5°	1076.9	1076.9	1058.8	1033.3	1022.7
25°	1036.3	1030.3	1013.7	977.6	950.5
27.5°	989.6	980.6	962.6	911.4	879.8
30°	938.5	934.0	908.4	842.2	818.2
32.5°	890.4	882.9	855.8	786.6	767.0
35°	840.7	834.7	794.1	734.0	715.9
37.5°	791.1	783.6	732.5	684.3	661.8
40°	741.5	732.5	676.8	633.2	609.1
42.5°	694.9	682.8	628.7	582.1	555.0
45°	645.2	631.7	577.5	529.4	508.4
47.5°	595.6	583.6	533.9	484.3	460.2
50°	542.9	532.4	487.3	437.7	412.1
52.5°	499.3	482.8	439.2	389.5	368.5
55°	448.2	434.7	394.1	347.4	329.4
57.5°	401.6	388.0	350.4	306.8	291.8
60°	358.0	338.4	306.8	269.2	257.2
62.5°	309.8	294.8	267.7	236.1	251.2
65°	266.2	251.2	227.1	231.6	192.5
67.5°	218.1	210.6	189.5	168.4	162.4
70°	177.5	168.4	160.9	138.4	132.4
72.5°	141.4	132.4	121.8	109.8	105.3
75°	106.8	99.3	93.2	88.7	97.8
77.5°	73.7	70.7	66.2	61.7	60.2
80°	48.1	46.6	45.1	43.6	42.1
82.5°	28.6	28.6	28.6	28.6	28.6
85°	15.0	16.5	18.0	19.6	21.1
87.5°	9.0	9.0	10.5	12.0	13.5
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)