

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: P546292

Luminaire Tested: **FMR-12-4-LD4-2LO-50-UNV-93-94-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: P546292
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-LD4-2LO-50-UNV-93-94-EDD
Description: 1X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187
CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT
LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

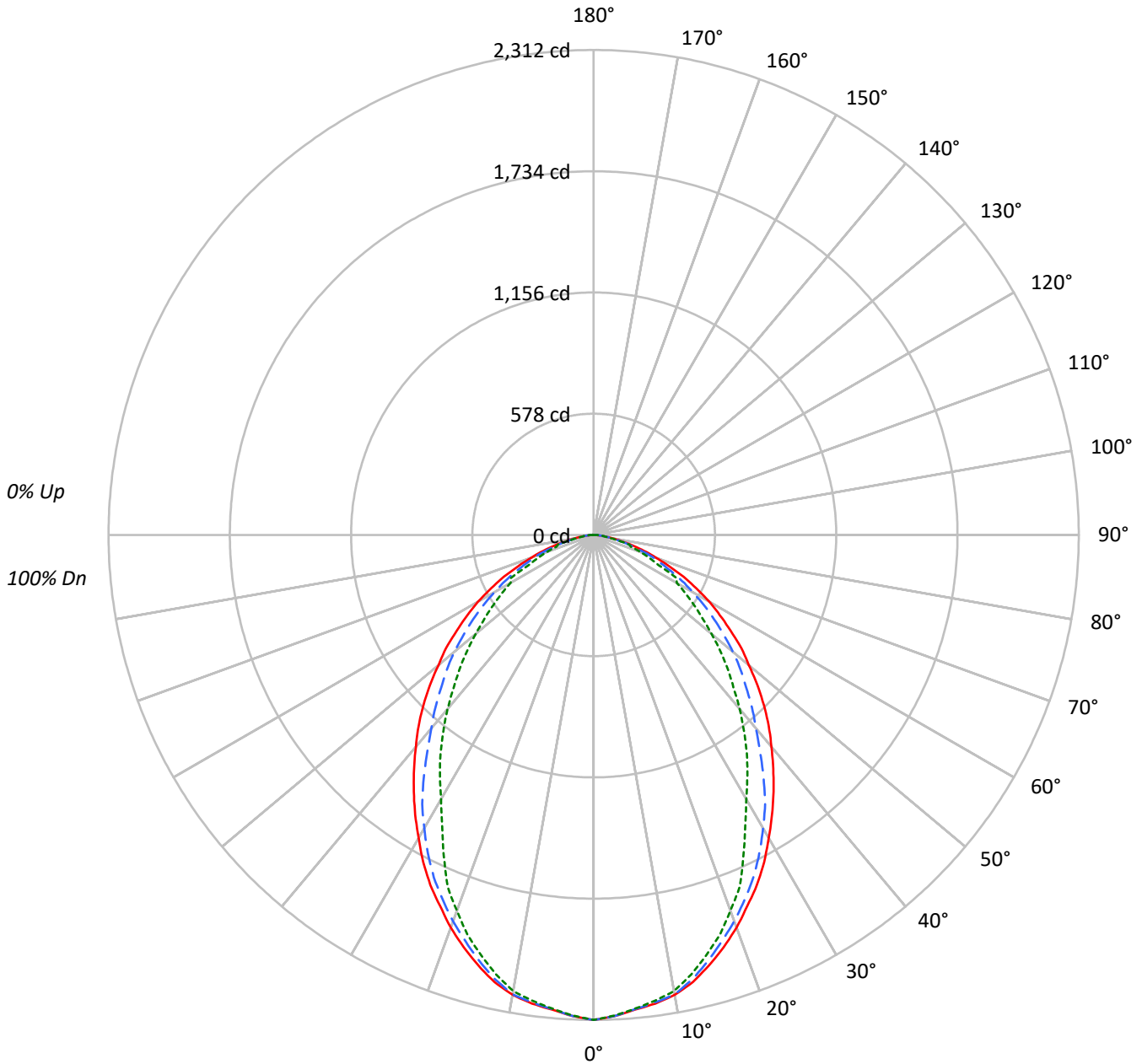
Lumens per Lamp: N/A
Luminaire Lumens: 4539.0 lumens
Efficiency: N/A
Efficacy: 97.0 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 46.8
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

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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°	6222	6222	6222
5°	6137	6130	6123
10°	6084	6077	6033
15°	5920	5860	5779
20°	5703	5611	5458
25°	5468	5349	5016
30°	5183	5017	4518
35°	4909	4636	4180
40°	4629	4225	3803
45°	4364	3906	3438
50°	4039	3625	3066
55°	3737	3286	2746
60°	3424	2935	2460
65°	3012	2570	2178
70°	2482	2250	1851
75°	1973	1723	1806
80°	1325	1243	1159
85°	824	991	1155



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	215.2	4.7
10°-20°	590.7	13.0
20°-30°	817.7	18.0
30°-40°	871.9	19.2
40°-50°	795.5	17.5
50°-60°	623.2	13.7
60°-70°	406.2	8.9
70°-80°	179.9	4.0
80°-90°	38.6	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°	1623.6	35.8
0°-40°	2495.6	55.0
0°-60°	3914.2	86.2
0°-90°	4539.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4539.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2312	2312	2312	2312	2312	
5°	2272	2269	2269	2267	2267	216
15°	2125	2125	2104	2082	2074	597
25°	1842	1831	1802	1737	1689	846
35°	1494	1484	1411	1304	1272	934
45°	1147	1123	1026	941	904	883
55°	796	772	700	618	585	714
65°	473	446	404	412	342	466
75°	190	176	166	158	174	203
85°	27	29	32	35	37	37
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2312.1	2312.1	2312.1	2312.1	2312.1
2.5°	2296.1	2296.1	2296.1	2293.4	2293.4
5°	2272.0	2269.3	2269.3	2266.7	2266.7
7.5°	2253.3	2250.6	2248.0	2245.3	2239.9
10°	2226.6	2226.6	2223.9	2210.5	2207.9
12.5°	2183.8	2181.1	2170.4	2151.7	2146.4
15°	2125.0	2125.0	2103.6	2082.2	2074.2
17.5°	2060.8	2058.2	2031.4	2010.1	1999.4
20°	1991.4	1986.0	1959.3	1924.5	1905.8
22.5°	1913.8	1913.8	1881.8	1836.3	1817.6
25°	1841.7	1831.0	1801.6	1737.4	1689.3
27.5°	1758.8	1742.8	1710.7	1619.8	1563.7
30°	1667.9	1659.9	1614.5	1496.9	1454.1
32.5°	1582.4	1569.0	1520.9	1398.0	1363.2
35°	1494.2	1483.5	1411.3	1304.4	1272.3
37.5°	1406.0	1392.6	1301.7	1216.2	1176.1
40°	1317.8	1301.7	1202.8	1125.3	1082.5
42.5°	1234.9	1213.5	1117.3	1034.4	986.3
45°	1146.7	1122.6	1026.4	940.9	903.5
47.5°	1058.5	1037.1	948.9	860.7	817.9
50°	964.9	946.2	866.0	777.8	732.4
52.5°	887.4	858.0	780.5	692.3	654.9
55°	796.5	772.5	700.3	617.5	585.4
57.5°	713.7	689.6	622.8	545.3	518.6
60°	636.2	601.4	545.3	478.5	457.1
62.5°	550.6	523.9	475.8	419.7	446.4
65°	473.1	446.4	403.6	411.6	342.1
67.5°	387.6	374.2	336.8	299.4	288.7
70°	315.4	299.4	286.0	245.9	235.2
72.5°	251.3	235.2	216.5	195.1	187.1
75°	189.8	176.4	165.7	157.7	173.7
77.5°	131.0	125.6	117.6	109.6	106.9
80°	85.5	82.9	80.2	77.5	74.8
82.5°	50.8	50.8	50.8	50.8	50.8
85°	26.7	29.4	32.1	34.7	37.4
87.5°	16.0	16.0	18.7	21.4	24.1
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)