

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: P546069

Luminaire Tested: **FMR-12-4-LD4-1STD-40-UNV-93-96-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: P546069
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-93-96-EDD
Description: 1X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

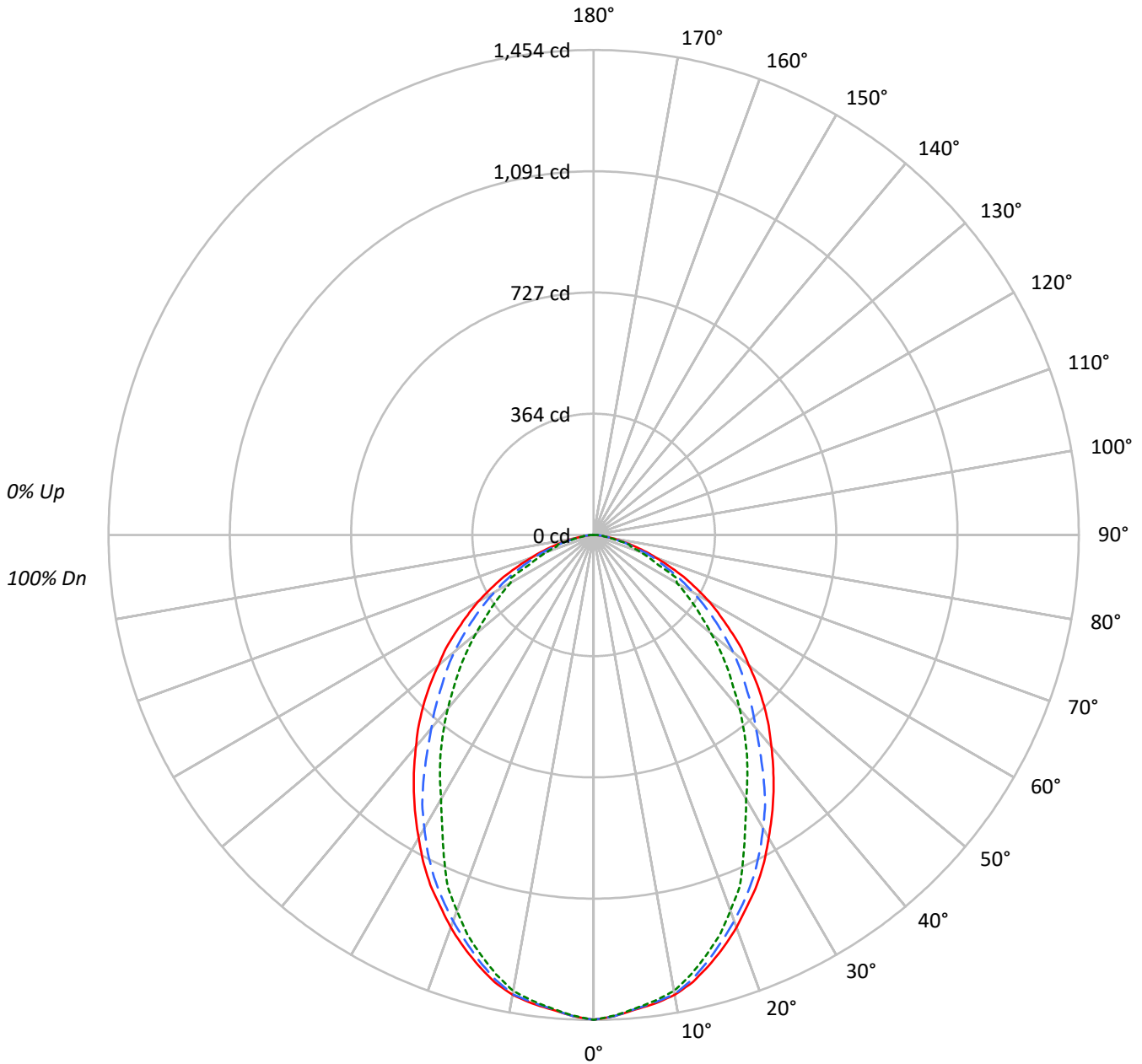
Lumens per Lamp: N/A
Luminaire Lumens: 2854.0 lumens
Efficiency: N/A
Efficacy: 85.7 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 33.3
Input Voltage (V): NR
Input Current (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°	3912	3912	3912
5°	3859	3854	3850
10°	3825	3821	3793
15°	3722	3685	3633
20°	3586	3528	3432
25°	3438	3363	3154
30°	3259	3154	2841
35°	3086	2915	2628
40°	2911	2657	2391
45°	2744	2456	2162
50°	2540	2280	1928
55°	2350	2066	1727
60°	2153	1845	1547
65°	1894	1616	1370
70°	1560	1415	1164
75°	1240	1083	1135
80°	834	781	730
85°	519	624	726



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	135.3	4.7
10°-20°	371.4	13.0
20°-30°	514.2	18.0
30°-40°	548.3	19.2
40°-50°	500.2	17.5
50°-60°	391.8	13.7
60°-70°	255.4	8.9
70°-80°	113.1	4.0
80°-90°	24.3	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°	1020.9	35.8
0°-40°	1569.2	55.0
0°-60°	2461.2	86.2
0°-90°	2854.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2854.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1454	1454	1454	1454	1454	
5°	1429	1427	1427	1425	1425	136
15°	1336	1336	1323	1309	1304	376
25°	1158	1151	1133	1092	1062	532
35°	940	933	887	820	800	587
45°	721	706	645	592	568	555
55°	501	486	440	388	368	449
65°	298	281	254	259	215	293
75°	119	111	104	99	109	128
85°	17	18	20	22	24	23
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1453.8	1453.8	1453.8	1453.8	1453.8
2.5°	1443.7	1443.7	1443.7	1442.0	1442.0
5°	1428.6	1426.9	1426.9	1425.2	1425.2
7.5°	1416.8	1415.1	1413.5	1411.8	1408.4
10°	1400.0	1400.0	1398.3	1389.9	1388.2
12.5°	1373.1	1371.4	1364.7	1352.9	1349.6
15°	1336.1	1336.1	1322.7	1309.3	1304.2
17.5°	1295.8	1294.1	1277.3	1263.9	1257.1
20°	1252.1	1248.7	1231.9	1210.1	1198.3
22.5°	1203.4	1203.4	1183.2	1154.6	1142.9
25°	1158.0	1151.3	1132.8	1092.4	1062.2
27.5°	1105.9	1095.8	1075.6	1018.5	983.2
30°	1048.7	1043.7	1015.1	941.2	914.3
32.5°	995.0	986.6	956.3	879.0	857.1
35°	939.5	932.8	887.4	820.2	800.0
37.5°	884.0	875.6	818.5	764.7	739.5
40°	828.6	818.5	756.3	707.6	680.7
42.5°	776.5	763.0	702.5	650.4	620.2
45°	721.0	705.9	645.4	591.6	568.1
47.5°	665.5	652.1	596.6	541.2	514.3
50°	606.7	595.0	544.5	489.1	460.5
52.5°	558.0	539.5	490.8	435.3	411.8
55°	500.8	485.7	440.3	388.2	368.1
57.5°	448.7	433.6	391.6	342.9	326.1
60°	400.0	378.2	342.9	300.8	287.4
62.5°	346.2	329.4	299.2	263.9	280.7
65°	297.5	280.7	253.8	258.8	215.1
67.5°	243.7	235.3	211.8	188.2	181.5
70°	198.3	188.2	179.8	154.6	147.9
72.5°	158.0	147.9	136.1	122.7	117.6
75°	119.3	110.9	104.2	99.2	109.2
77.5°	82.4	79.0	73.9	68.9	67.2
80°	53.8	52.1	50.4	48.7	47.1
82.5°	31.9	31.9	31.9	31.9	31.9
85°	16.8	18.5	20.2	21.8	23.5
87.5°	10.1	10.1	11.8	13.4	15.1
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)