

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: P545832

Luminaire Tested: **FMR-12-4-LD4-1HI-35-UNV-82-85-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: P545832
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-LD4-1HI-35-UNV-82-85-EDD
Description: 1X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

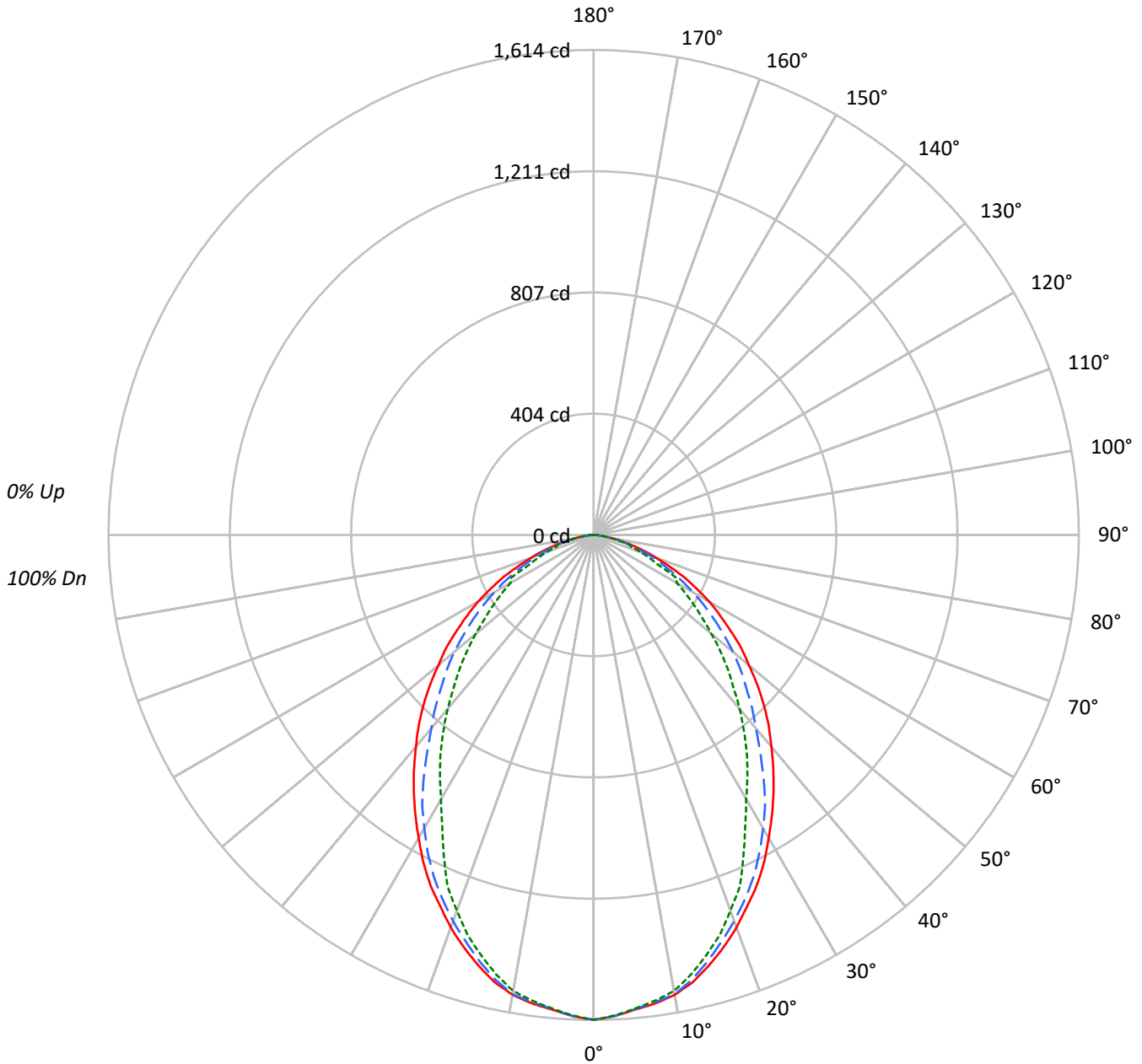
Lumens per Lamp: N/A
Luminaire Lumens: 3168.0 lumens
Efficiency: N/A
Efficacy: 73.3 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 43.2
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°	4342	4342	4342
5°	4284	4279	4273
10°	4246	4241	4211
15°	4132	4090	4033
20°	3980	3916	3809
25°	3817	3733	3501
30°	3617	3501	3154
35°	3426	3236	2917
40°	3231	2949	2654
45°	3046	2726	2400
50°	2820	2531	2140
55°	2608	2293	1917
60°	2390	2048	1717
65°	2103	1794	1521
70°	1732	1570	1292
75°	1378	1203	1261
80°	925	868	809
85°	577	692	806



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	150.2	4.7
10°-20°	412.3	13.0
20°-30°	570.7	18.0
30°-40°	608.6	19.2
40°-50°	555.2	17.5
50°-60°	435.0	13.7
60°-70°	283.5	8.9
70°-80°	125.6	4.0
80°-90°	27.0	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°	1133.2	35.8
0°-40°	1741.8	55.0
0°-60°	2732.0	86.2
0°-90°	3168.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3168.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1614	1614	1614	1614	1614	
5°	1586	1584	1584	1582	1582	151
15°	1483	1483	1468	1453	1448	417
25°	1285	1278	1257	1213	1179	590
35°	1043	1035	985	910	888	652
45°	800	784	716	657	631	616
55°	556	539	489	431	409	499
65°	330	312	282	287	239	325
75°	132	123	116	110	121	142
85°	19	20	22	24	26	26
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1613.7	1613.7	1613.7	1613.7	1613.7
2.5°	1602.5	1602.5	1602.5	1600.7	1600.7
5°	1585.8	1583.9	1583.9	1582.0	1582.0
7.5°	1572.7	1570.8	1569.0	1567.1	1563.4
10°	1554.0	1554.0	1552.2	1542.8	1541.0
12.5°	1524.2	1522.3	1514.9	1501.8	1498.1
15°	1483.1	1483.1	1468.2	1453.3	1447.7
17.5°	1438.4	1436.5	1417.8	1402.9	1395.5
20°	1389.9	1386.1	1367.5	1343.2	1330.2
22.5°	1335.8	1335.8	1313.4	1281.7	1268.6
25°	1285.4	1277.9	1257.4	1212.6	1179.1
27.5°	1227.6	1216.4	1194.0	1130.5	1091.4
30°	1164.1	1158.5	1126.8	1044.7	1014.9
32.5°	1104.4	1095.1	1061.5	975.7	951.5
35°	1042.9	1035.4	985.0	910.4	888.0
37.5°	981.3	972.0	908.5	848.8	820.9
40°	919.7	908.5	839.5	785.4	755.6
42.5°	861.9	847.0	779.8	722.0	688.4
45°	800.3	783.5	716.4	656.7	630.6
47.5°	738.8	723.8	662.3	600.7	570.9
50°	673.5	660.4	604.5	542.9	511.2
52.5°	619.4	598.9	544.8	483.2	457.1
55°	555.9	539.2	488.8	431.0	408.6
57.5°	498.1	481.3	434.7	380.6	361.9
60°	444.0	419.8	380.6	333.9	319.0
62.5°	384.3	365.7	332.1	292.9	311.6
65°	330.2	311.6	281.7	287.3	238.8
67.5°	270.5	261.2	235.1	208.9	201.5
70°	220.1	208.9	199.6	171.6	164.2
72.5°	175.4	164.2	151.1	136.2	130.6
75°	132.5	123.1	115.7	110.1	121.3
77.5°	91.4	87.7	82.1	76.5	74.6
80°	59.7	57.8	56.0	54.1	52.2
82.5°	35.4	35.4	35.4	35.4	35.4
85°	18.7	20.5	22.4	24.3	26.1
87.5°	11.2	11.2	13.1	14.9	16.8
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)