

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: P545823

Luminaire Tested: **FMR-12-4-LD4-1HI-35-UNV-81-84-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: P545823
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-81-84-EDD
Description: 1X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

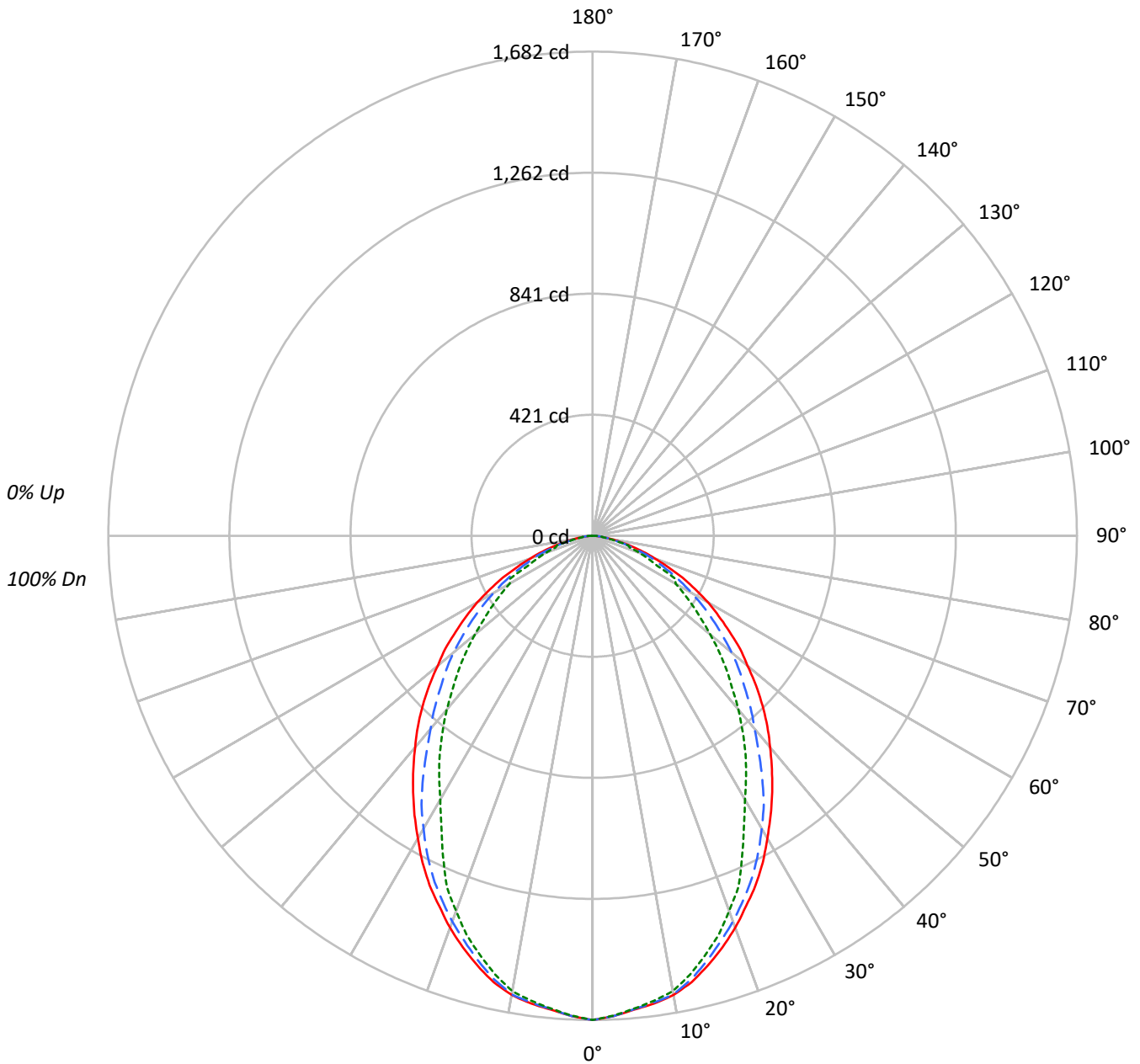
Lumens per Lamp: N/A
Luminaire Lumens: 3302.0 lumens
Efficiency: N/A
Efficacy: 76.4 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 43.2
Input Voltage (V): NR
Input Current (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: P545823

CATALOG NUMBER: FMR-12-4-LD4-1HI-35-UNV-81-84-EDD

Luminous Intensity Polar Plot





TEST NUMBER: P545823

CATALOG NUMBER: FMR-12-4-LD4-1HI-35-UNV-81-84-EDD

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°	4526	4526	4526
5°	4465	4460	4454
10°	4426	4421	4389
15°	4307	4263	4204
20°	4149	4082	3970
25°	3978	3891	3649
30°	3770	3649	3287
35°	3571	3373	3041
40°	3367	3074	2766
45°	3175	2842	2501
50°	2939	2637	2231
55°	2719	2390	1998
60°	2491	2135	1790
65°	2192	1869	1585
70°	1806	1637	1346
75°	1436	1254	1314
80°	964	903	843
85°	599	719	840



TEST NUMBER: P545823

CATALOG NUMBER: FMR-12-4-LD4-1HI-35-UNV-81-84-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	156.6	4.7
10°-20°	429.7	13.0
20°-30°	594.9	18.0
30°-40°	634.3	19.2
40°-50°	578.7	17.5
50°-60°	453.4	13.7
60°-70°	295.5	8.9
70°-80°	130.9	4.0
80°-90°	28.1	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°	1181.2	35.8
0°-40°	1815.5	55.0
0°-60°	2847.5	86.2
0°-90°	3302.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3302.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1682	1682	1682	1682	1682	
5°	1653	1651	1651	1649	1649	157
15°	1546	1546	1530	1515	1509	435
25°	1340	1332	1311	1264	1229	615
35°	1087	1079	1027	949	926	680
45°	834	817	747	684	657	643
55°	580	562	510	449	426	520
65°	344	325	294	300	249	339
75°	138	128	121	115	126	148
85°	19	21	23	25	27	27
90°	0	0	0	0	0	



TEST NUMBER: P545823

CATALOG NUMBER: FMR-12-4-LD4-1HI-35-UNV-81-84-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1682.0	1682.0	1682.0	1682.0	1682.0
2.5°	1670.3	1670.3	1670.3	1668.4	1668.4
5°	1652.8	1650.9	1650.9	1648.9	1648.9
7.5°	1639.2	1637.3	1635.3	1633.4	1629.5
10°	1619.8	1619.8	1617.8	1608.1	1606.2
12.5°	1588.7	1586.7	1578.9	1565.3	1561.4
15°	1545.9	1545.9	1530.3	1514.8	1508.9
17.5°	1499.2	1497.3	1477.8	1462.3	1454.5
20°	1448.7	1444.8	1425.3	1400.0	1386.4
22.5°	1392.3	1392.3	1368.9	1335.9	1322.3
25°	1339.8	1332.0	1310.6	1263.9	1228.9
27.5°	1279.5	1267.8	1244.5	1178.4	1137.5
30°	1213.4	1207.5	1174.5	1088.9	1057.8
32.5°	1151.1	1141.4	1106.4	1017.0	991.7
35°	1087.0	1079.2	1026.7	948.9	925.6
37.5°	1022.8	1013.1	947.0	884.7	855.6
40°	958.6	947.0	875.0	818.6	787.5
42.5°	898.4	882.8	812.8	752.5	717.5
45°	834.2	816.7	746.7	684.5	657.2
47.5°	770.0	754.5	690.3	626.1	595.0
50°	702.0	688.4	630.0	565.9	532.8
52.5°	645.6	624.2	567.8	503.6	476.4
55°	579.5	562.0	509.5	449.2	425.8
57.5°	519.2	501.7	453.1	396.7	377.2
60°	462.8	437.5	396.7	348.1	332.5
62.5°	400.6	381.1	346.1	305.3	324.7
65°	344.2	324.7	293.6	299.5	248.9
67.5°	282.0	272.2	245.0	217.8	210.0
70°	229.5	217.8	208.1	178.9	171.1
72.5°	182.8	171.1	157.5	141.9	136.1
75°	138.1	128.3	120.6	114.7	126.4
77.5°	95.3	91.4	85.6	79.7	77.8
80°	62.2	60.3	58.3	56.4	54.4
82.5°	36.9	36.9	36.9	36.9	36.9
85°	19.4	21.4	23.3	25.3	27.2
87.5°	11.7	11.7	13.6	15.6	17.5
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)