

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: P546535

Luminaire Tested: **FMR-24-4-LD4-1LO-40-UNV-82-84-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: P546535
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-24-4-LD4-1LO-40-UNV-82-84-EDD
Description: 2X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

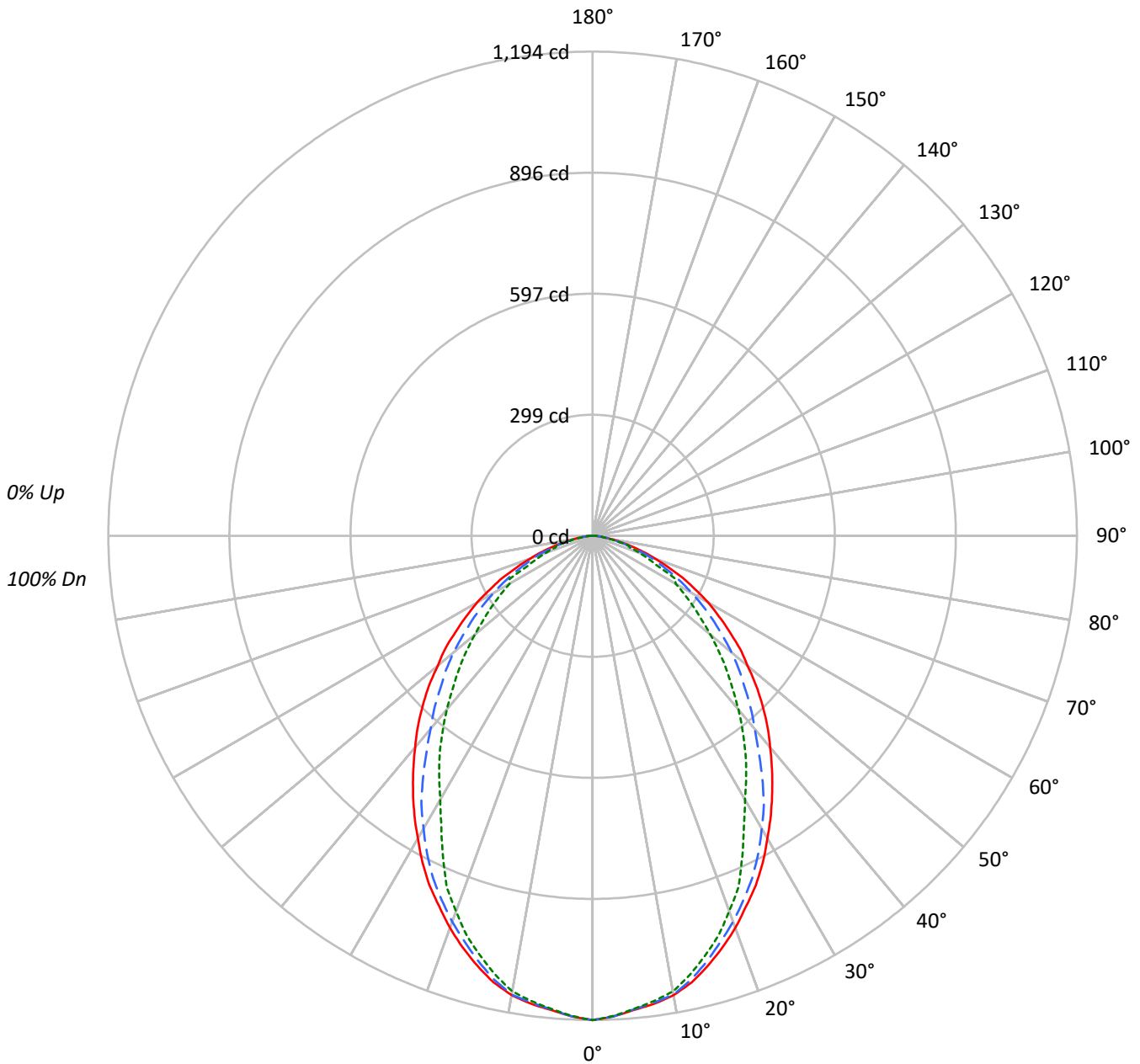
Lumens per Lamp: N/A
Luminaire Lumens: 2345.0 lumens
Efficiency: N/A
Efficacy: 100.2 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 23.4
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

TEST NUMBER: P546535

CATALOG NUMBER: FMR-24-4-LD4-1LO-40-UNV-82-84-EDD

Luminous Intensity Polar Plot





TEST NUMBER: P546535

CATALOG NUMBER: FMR-24-4-LD4-1LO-40-UNV-82-84-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°	1607	1607	1607
5°	1585	1583	1582
10°	1572	1570	1558
15°	1529	1514	1493
20°	1473	1449	1410
25°	1413	1382	1296
30°	1339	1296	1167
35°	1268	1198	1080
40°	1196	1091	982
45°	1127	1009	888
50°	1043	937	792
55°	965	849	709
60°	885	758	635
65°	778	664	563
70°	641	581	478
75°	509	445	467
80°	342	321	300
85°	213	256	298



TEST NUMBER: P546535

CATALOG NUMBER: FMR-24-4-LD4-1LO-40-UNV-82-84-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	111.2	4.7
10°-20°	305.2	13.0
20°-30°	422.5	18.0
30°-40°	450.5	19.2
40°-50°	411.0	17.5
50°-60°	322.0	13.7
60°-70°	209.8	8.9
70°-80°	93.0	4.0
80°-90°	20.0	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°	838.8	35.8
0°-40°	1289.3	55.0
0°-60°	2022.2	86.2
0°-90°	2345.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2345.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1194	1194	1194	1194	1194	
5°	1174	1172	1172	1171	1171	111
15°	1098	1098	1087	1076	1072	309
25°	952	946	931	898	873	437
35°	772	766	729	674	657	483
45°	592	580	530	486	467	456
55°	412	399	362	319	302	369
65°	244	231	208	213	177	241
75°	98	91	86	82	90	105
85°	14	15	17	18	19	19
90°	0	0	0	0	0	



TEST NUMBER: P546535

CATALOG NUMBER: FMR-24-4-LD4-1LO-40-UNV-82-84-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1194.5	1194.5	1194.5	1194.5	1194.5
2.5°	1186.2	1186.2	1186.2	1184.8	1184.8
5°	1173.8	1172.4	1172.4	1171.0	1171.0
7.5°	1164.1	1162.8	1161.4	1160.0	1157.2
10°	1150.3	1150.3	1148.9	1142.0	1140.7
12.5°	1128.2	1126.8	1121.3	1111.7	1108.9
15°	1097.8	1097.8	1086.8	1075.8	1071.6
17.5°	1064.7	1063.3	1049.5	1038.5	1032.9
20°	1028.8	1026.0	1012.2	994.3	984.6
22.5°	988.8	988.8	972.2	948.7	939.0
25°	951.5	945.9	930.8	897.6	872.8
27.5°	908.7	900.4	883.8	836.8	807.8
30°	861.7	857.6	834.1	773.3	751.2
32.5°	817.5	810.6	785.8	722.2	704.3
35°	771.9	766.4	729.1	673.9	657.3
37.5°	726.4	719.5	672.5	628.3	607.6
40°	680.8	672.5	621.4	581.4	559.3
42.5°	638.0	626.9	577.2	534.4	509.6
45°	592.4	580.0	530.3	486.1	466.8
47.5°	546.9	535.8	490.2	444.7	422.6
50°	498.5	488.9	447.4	401.9	378.4
52.5°	458.5	443.3	403.2	357.7	338.3
55°	411.5	399.1	361.8	319.0	302.4
57.5°	368.7	356.3	321.8	281.7	267.9
60°	328.7	310.7	281.7	247.2	236.1
62.5°	284.5	270.7	245.8	216.8	230.6
65°	244.4	230.6	208.5	212.7	176.8
67.5°	200.2	193.3	174.0	154.7	149.1
70°	163.0	154.7	147.8	127.0	121.5
72.5°	129.8	121.5	111.9	100.8	96.7
75°	98.0	91.1	85.6	81.5	89.8
77.5°	67.7	64.9	60.8	56.6	55.2
80°	44.2	42.8	41.4	40.0	38.7
82.5°	26.2	26.2	26.2	26.2	26.2
85°	13.8	15.2	16.6	18.0	19.3
87.5°	8.3	8.3	9.7	11.0	12.4
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)