

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: P546537

Luminaire Tested: **FMR-24-4-LD4-1LO-40-UNV-82-86-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: P546537
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-82-86-EDD
Description: 2X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

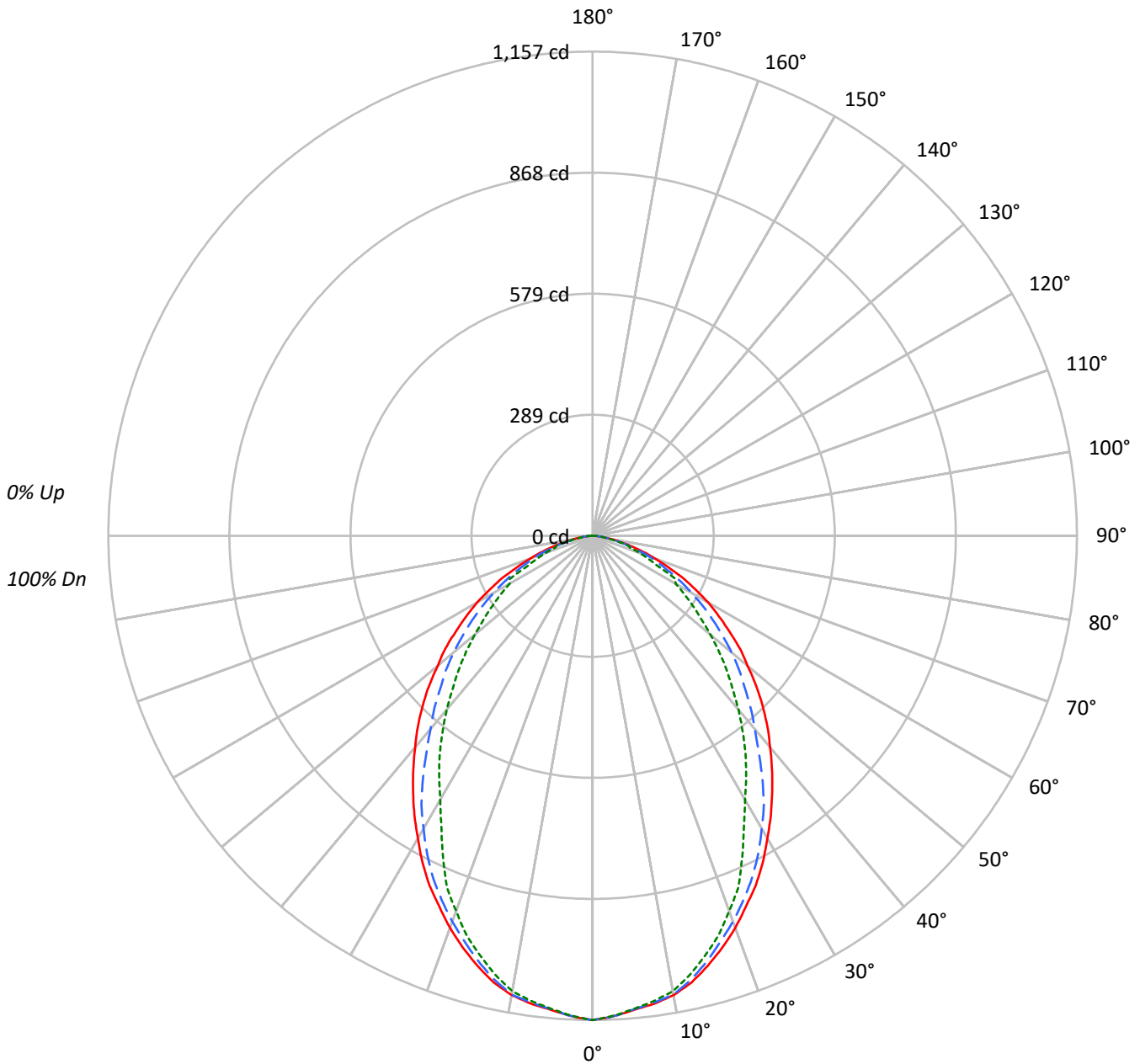
Lumens per Lamp: N/A
Luminaire Lumens: 2272.0 lumens
Efficiency: N/A
Efficacy: 97.1 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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

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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20				
RC	80				70				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	100	100	100
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87	87	87	87
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75	75	75	75
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65	65	65	65
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56	56	56	56
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50	50	50	50
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44	44	44	44
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40	40	40	40
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36	36	36	36
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33	33	33	33
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30	30	30	30

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1557	1557	1557
5°	1536	1534	1532
10°	1523	1521	1510
15°	1482	1467	1446
20°	1427	1404	1366
25°	1368	1339	1255
30°	1297	1255	1131
35°	1228	1160	1046
40°	1159	1058	952
45°	1092	978	860
50°	1011	907	767
55°	935	822	687
60°	857	734	616
65°	754	643	545
70°	621	563	463
75°	494	431	452
80°	332	311	291
85°	207	249	289



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	107.7	4.7
10°-20°	295.7	13.0
20°-30°	409.3	18.0
30°-40°	436.5	19.2
40°-50°	398.2	17.5
50°-60°	311.9	13.7
60°-70°	203.3	8.9
70°-80°	90.1	4.0
80°-90°	19.3	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°	812.7	35.8
0°-40°	1249.2	55.0
0°-60°	1959.3	86.2
0°-90°	2272.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2272.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1157	1157	1157	1157	1157	
5°	1137	1136	1136	1135	1135	108
15°	1064	1064	1053	1042	1038	299
25°	922	916	902	870	846	423
35°	748	743	706	653	637	468
45°	574	562	514	471	452	442
55°	399	387	350	309	293	358
65°	237	223	202	206	171	233
75°	95	88	83	79	87	102
85°	13	15	16	17	19	19
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1157.3	1157.3	1157.3	1157.3	1157.3
2.5°	1149.3	1149.3	1149.3	1148.0	1148.0
5°	1137.3	1135.9	1135.9	1134.6	1134.6
7.5°	1127.9	1126.6	1125.2	1123.9	1121.2
10°	1114.5	1114.5	1113.2	1106.5	1105.1
12.5°	1093.1	1091.8	1086.4	1077.0	1074.4
15°	1063.7	1063.7	1053.0	1042.3	1038.2
17.5°	1031.6	1030.2	1016.8	1006.1	1000.8
20°	996.8	994.1	980.7	963.3	954.0
22.5°	958.0	958.0	941.9	919.2	909.8
25°	921.8	916.5	901.8	869.7	845.6
27.5°	880.4	872.3	856.3	810.8	782.7
30°	834.9	830.9	808.1	749.3	727.8
32.5°	792.1	785.4	761.3	699.7	682.4
35°	747.9	742.6	706.4	652.9	636.9
37.5°	703.8	697.1	651.6	608.8	588.7
40°	659.6	651.6	602.1	563.3	541.9
42.5°	618.1	607.4	559.3	517.8	493.7
45°	574.0	561.9	513.8	471.0	452.2
47.5°	529.8	519.1	475.0	430.8	409.4
50°	483.0	473.6	433.5	389.3	366.6
52.5°	444.2	429.5	390.7	346.5	327.8
55°	398.7	386.7	350.5	309.1	293.0
57.5°	357.2	345.2	311.7	272.9	259.6
60°	318.4	301.0	272.9	239.5	228.8
62.5°	275.6	262.2	238.2	210.1	223.4
65°	236.8	223.4	202.0	206.0	171.3
67.5°	194.0	187.3	168.6	149.9	144.5
70°	157.9	149.9	143.2	123.1	117.7
72.5°	125.8	117.7	108.4	97.7	93.7
75°	95.0	88.3	83.0	78.9	87.0
77.5°	65.6	62.9	58.9	54.9	53.5
80°	42.8	41.5	40.1	38.8	37.5
82.5°	25.4	25.4	25.4	25.4	25.4
85°	13.4	14.7	16.1	17.4	18.7
87.5°	8.0	8.0	9.4	10.7	12.0
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)