

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: P546538

Luminaire Tested: **FMR-24-4-LD4-1LO-40-UNV-82-87-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: P546538
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-82-87-EDD
Description: 2X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

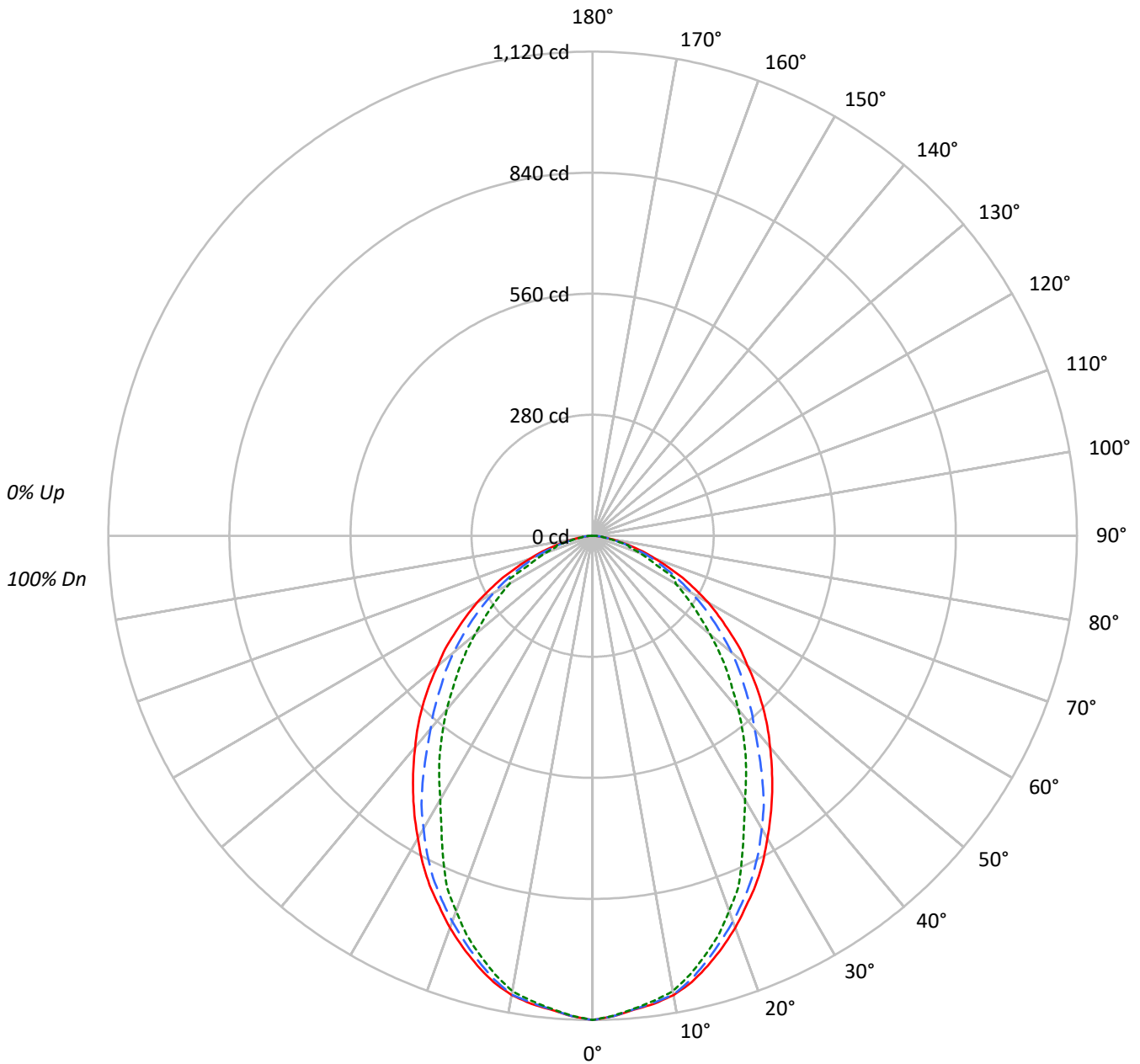
Lumens per Lamp: N/A
Luminaire Lumens: 2199.0 lumens
Efficiency: N/A
Efficacy: 94.0 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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									
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°	1507	1507	1507
5°	1487	1485	1483
10°	1474	1472	1461
15°	1434	1420	1400
20°	1381	1359	1322
25°	1325	1296	1215
30°	1255	1215	1095
35°	1189	1123	1012
40°	1121	1023	921
45°	1057	946	833
50°	979	878	743
55°	905	796	665
60°	829	711	596
65°	730	622	528
70°	601	545	448
75°	478	417	438
80°	321	301	281
85°	199	239	279



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	104.3	4.7
10°-20°	286.2	13.0
20°-30°	396.2	18.0
30°-40°	422.4	19.2
40°-50°	385.4	17.5
50°-60°	301.9	13.7
60°-70°	196.8	8.9
70°-80°	87.2	4.0
80°-90°	18.7	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°	786.6	35.8
0°-40°	1209.0	55.0
0°-60°	1896.3	86.2
0°-90°	2199.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2199.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1120	1120	1120	1120	1120	
5°	1101	1099	1099	1098	1098	104
15°	1030	1030	1019	1009	1005	289
25°	892	887	873	842	818	410
35°	724	719	684	632	616	453
45°	556	544	497	456	438	428
55°	386	374	339	299	284	346
65°	229	216	196	199	166	226
75°	92	86	80	76	84	99
85°	13	14	16	17	18	18
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1120.1	1120.1	1120.1	1120.1	1120.1
2.5°	1112.4	1112.4	1112.4	1111.1	1111.1
5°	1100.7	1099.4	1099.4	1098.1	1098.1
7.5°	1091.7	1090.4	1089.1	1087.8	1085.2
10°	1078.7	1078.7	1077.4	1070.9	1069.6
12.5°	1058.0	1056.7	1051.5	1042.4	1039.9
15°	1029.5	1029.5	1019.1	1008.8	1004.9
17.5°	998.4	997.1	984.2	973.8	968.6
20°	964.7	962.2	949.2	932.4	923.3
22.5°	927.2	927.2	911.7	889.6	880.6
25°	892.2	887.0	872.8	841.7	818.4
27.5°	852.1	844.3	828.8	784.7	757.6
30°	808.1	804.2	782.2	725.2	704.5
32.5°	766.6	760.1	736.8	677.3	660.4
35°	723.9	718.7	683.7	631.9	616.4
37.5°	681.1	674.7	630.6	589.2	569.8
40°	638.4	630.6	582.7	545.2	524.5
42.5°	598.3	587.9	541.3	501.1	477.8
45°	555.5	543.9	497.3	455.8	437.7
47.5°	512.8	502.4	459.7	417.0	396.3
50°	467.5	458.4	419.6	376.8	354.8
52.5°	429.9	415.7	378.1	335.4	317.3
55°	385.9	374.2	339.3	299.1	283.6
57.5°	345.8	334.1	301.7	264.2	251.2
60°	308.2	291.4	264.2	231.8	221.4
62.5°	266.8	253.8	230.5	203.3	216.3
65°	229.2	216.3	195.5	199.4	165.8
67.5°	187.8	181.3	163.2	145.0	139.9
70°	152.8	145.0	138.6	119.1	114.0
72.5°	121.7	114.0	104.9	94.5	90.6
75°	91.9	85.5	80.3	76.4	84.2
77.5°	63.5	60.9	57.0	53.1	51.8
80°	41.4	40.1	38.8	37.6	36.3
82.5°	24.6	24.6	24.6	24.6	24.6
85°	12.9	14.2	15.5	16.8	18.1
87.5°	7.8	7.8	9.1	10.4	11.7
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)