

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: P545865

Luminaire Tested: **FMR-12-4-LD4-1HI-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: P545865
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-40-UNV-82-86-EDD
Description: 1X4 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

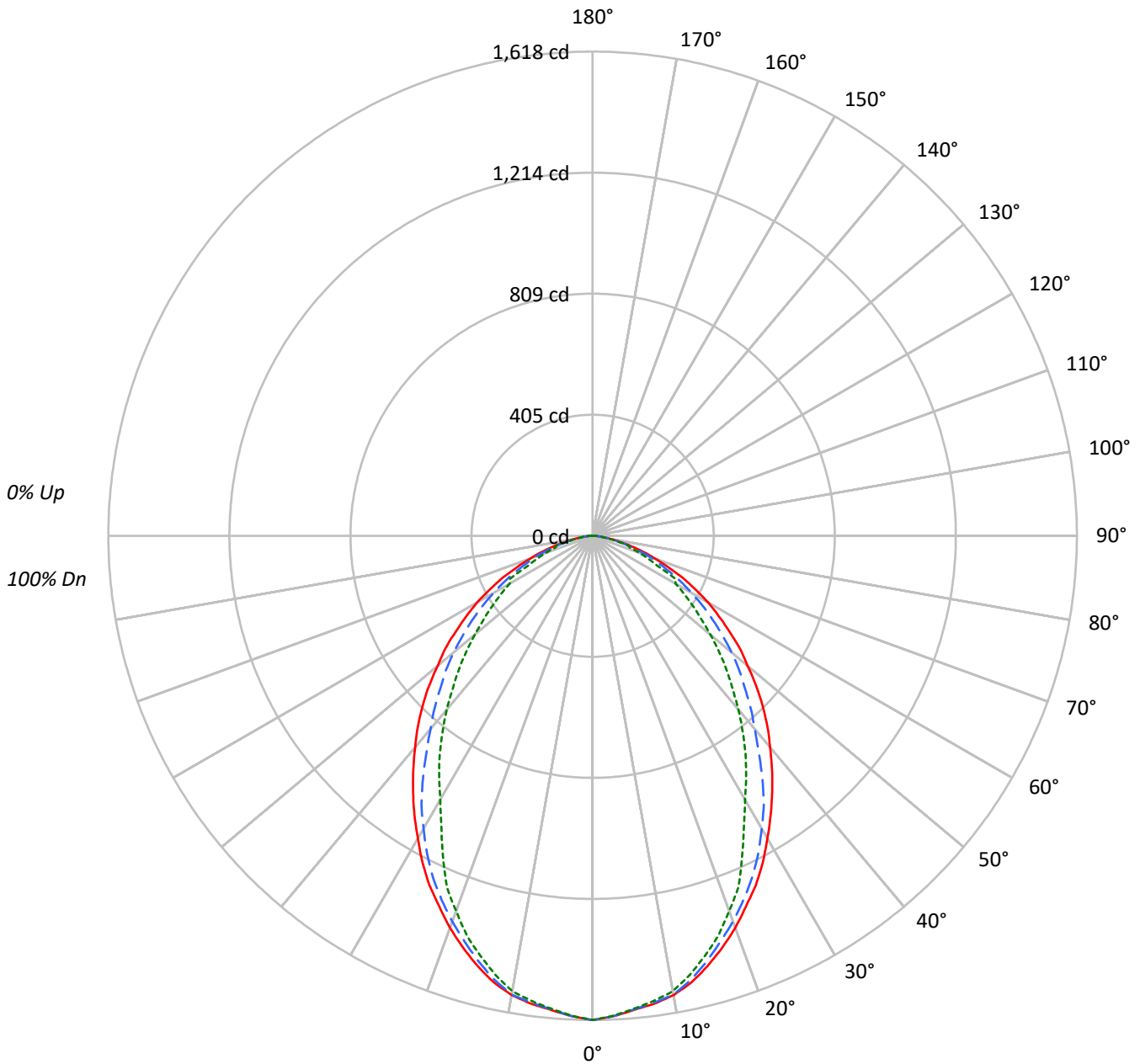
Lumens per Lamp: N/A
Luminaire Lumens: 3177.0 lumens
Efficiency: N/A
Efficacy: 73.5 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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

TEST NUMBER: P545865

CATALOG NUMBER: FMR-12-4-LD4-1HI-40-UNV-82-86-EDD

Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				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°	4355	4355	4355
5°	4296	4291	4286
10°	4259	4253	4223
15°	4144	4102	4045
20°	3991	3927	3820
25°	3827	3744	3511
30°	3627	3511	3163
35°	3436	3245	2925
40°	3240	2957	2662
45°	3054	2734	2407
50°	2828	2538	2146
55°	2616	2300	1922
60°	2397	2054	1722
65°	2108	1799	1525
70°	1737	1575	1295
75°	1381	1206	1264
80°	928	869	812
85°	577	695	809



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	150.6	4.7
10°-20°	413.4	13.0
20°-30°	572.4	18.0
30°-40°	610.3	19.2
40°-50°	556.8	17.5
50°-60°	436.2	13.7
60°-70°	284.3	8.9
70°-80°	125.9	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°	1136.4	35.8
0°-40°	1746.7	55.0
0°-60°	2739.7	86.2
0°-90°	3177.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3177.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1618	1618	1618	1618	1618	
5°	1590	1588	1588	1586	1586	151
15°	1487	1487	1472	1457	1452	418
25°	1289	1282	1261	1216	1182	592
35°	1046	1038	988	913	890	654
45°	803	786	718	659	632	618
55°	558	541	490	432	410	500
65°	331	312	282	288	240	326
75°	133	124	116	110	122	142
85°	19	21	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°	1618.3	1618.3	1618.3	1618.3	1618.3
2.5°	1607.1	1607.1	1607.1	1605.2	1605.2
5°	1590.3	1588.4	1588.4	1586.5	1586.5
7.5°	1577.2	1575.3	1573.4	1571.5	1567.8
10°	1558.5	1558.5	1556.6	1547.2	1545.4
12.5°	1528.5	1526.6	1519.2	1506.1	1502.3
15°	1487.4	1487.4	1472.4	1457.4	1451.8
17.5°	1442.5	1440.6	1421.9	1406.9	1399.4
20°	1393.8	1390.1	1371.4	1347.0	1333.9
22.5°	1339.6	1339.6	1317.1	1285.3	1272.2
25°	1289.0	1281.6	1261.0	1216.1	1182.4
27.5°	1231.0	1219.8	1197.4	1133.8	1094.5
30°	1167.4	1161.8	1130.0	1047.7	1017.8
32.5°	1107.6	1098.2	1064.5	978.5	954.2
35°	1045.8	1038.3	987.8	913.0	890.5
37.5°	984.1	974.7	911.1	851.3	823.2
40°	922.3	911.1	841.9	787.6	757.7
42.5°	864.4	849.4	782.0	724.0	690.4
45°	802.6	785.8	718.4	658.6	632.4
47.5°	740.9	725.9	664.2	602.4	572.5
50°	675.4	662.3	606.2	544.4	512.6
52.5°	621.1	600.6	546.3	484.6	458.4
55°	557.5	540.7	490.2	432.2	409.7
57.5°	499.5	482.7	435.9	381.7	363.0
60°	445.3	421.0	381.7	334.9	319.9
62.5°	385.4	366.7	333.0	293.7	312.4
65°	331.1	312.4	282.5	288.1	239.5
67.5°	271.3	261.9	235.7	209.5	202.1
70°	220.8	209.5	200.2	172.1	164.6
72.5°	175.9	164.6	151.5	136.6	131.0
75°	132.8	123.5	116.0	110.4	121.6
77.5°	91.7	87.9	82.3	76.7	74.8
80°	59.9	58.0	56.1	54.3	52.4
82.5°	35.5	35.5	35.5	35.5	35.5
85°	18.7	20.6	22.5	24.3	26.2
87.5°	11.2	11.2	13.1	15.0	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)