

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: P546752

Luminaire Tested: **FMR-24-4-LD4-2HI-50-UNV-81-85-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: P546752
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-LD4-2HI-50-UNV-81-85-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

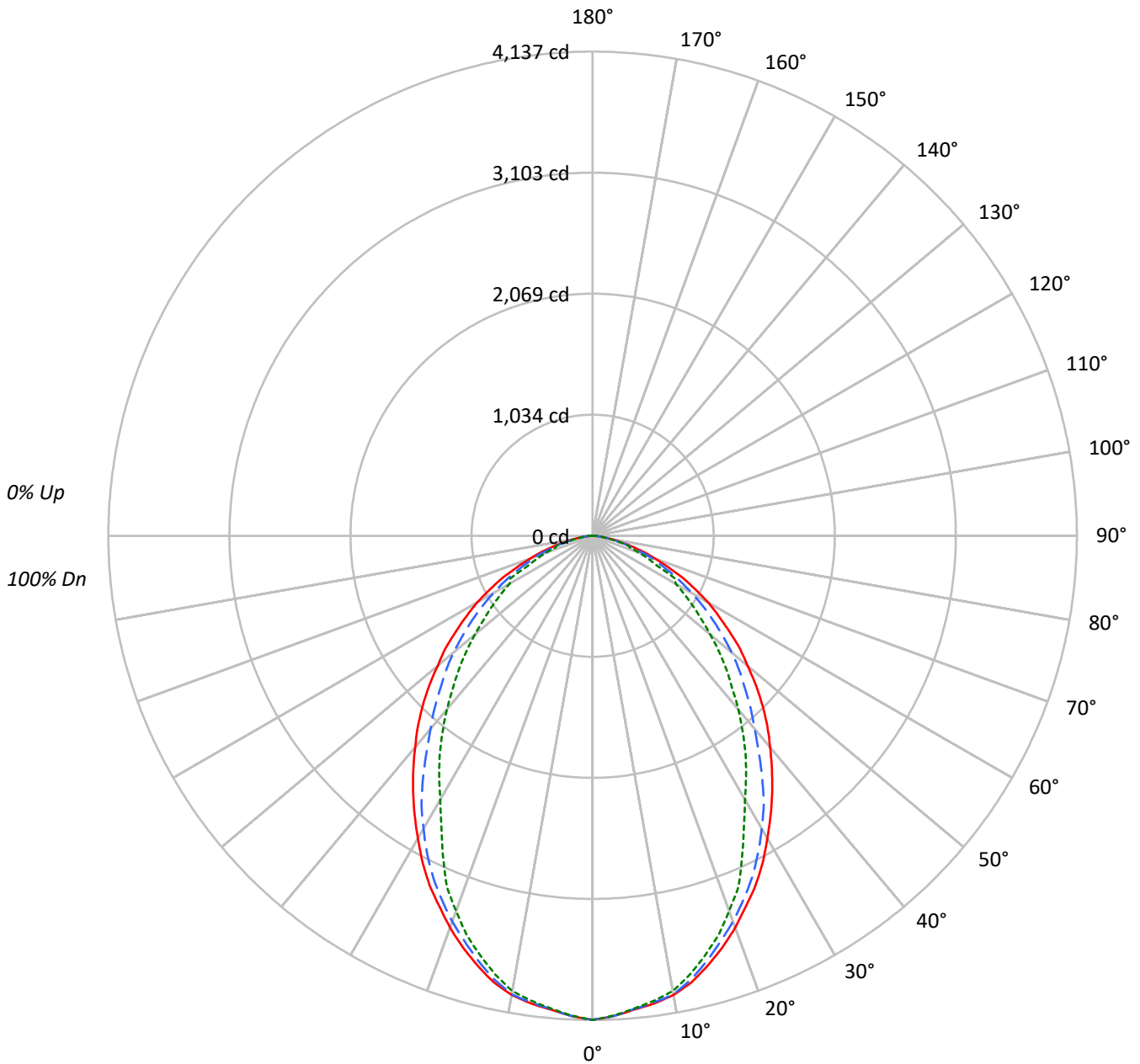
Lumens per Lamp: N/A
Luminaire Lumens: 8121.0 lumens
Efficiency: N/A
Efficacy: 94.0 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 86.4
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: P546752

CATALOG NUMBER: FMR-24-4-LD4-2HI-50-UNV-81-85-EDD

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°	5566	5566	5566
5°	5490	5484	5477
10°	5443	5436	5397
15°	5296	5243	5169
20°	5101	5019	4882
25°	4892	4785	4487
30°	4636	4488	4042
35°	4391	4148	3739
40°	4141	3780	3402
45°	3904	3494	3076
50°	3614	3243	2743
55°	3343	2939	2457
60°	3063	2625	2201
65°	2695	2299	1949
70°	2220	2013	1655
75°	1765	1541	1616
80°	1185	1112	1038
85°	738	886	1034



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	385.1	4.7
10°-20°	1056.8	13.0
20°-30°	1463.1	18.0
30°-40°	1560.1	19.2
40°-50°	1423.2	17.5
50°-60°	1115.0	13.7
60°-70°	726.7	8.9
70°-80°	322.0	4.0
80°-90°	69.1	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°	2905.0	35.8
0°-40°	4465.0	55.0
0°-60°	7003.2	86.2
0°-90°	8121.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8121.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4137	4137	4137	4137	4137	
5°	4065	4060	4060	4055	4055	386
15°	3802	3802	3764	3725	3711	1069
25°	3295	3276	3223	3108	3022	1513
35°	2673	2654	2525	2334	2276	1671
45°	2052	2009	1836	1683	1616	1580
55°	1425	1382	1253	1105	1047	1278
65°	846	799	722	736	612	834
75°	340	316	296	282	311	364
85°	48	53	57	62	67	66
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4136.7	4136.7	4136.7	4136.7	4136.7
2.5°	4108.0	4108.0	4108.0	4103.3	4103.3
5°	4065.0	4060.2	4060.2	4055.4	4055.4
7.5°	4031.5	4026.7	4022.0	4017.2	4007.6
10°	3983.7	3983.7	3978.9	3955.0	3950.2
12.5°	3907.2	3902.4	3883.3	3849.8	3840.2
15°	3802.0	3802.0	3763.7	3725.4	3711.1
17.5°	3687.2	3682.4	3634.6	3596.3	3577.2
20°	3562.8	3553.3	3505.5	3443.3	3409.8
22.5°	3424.2	3424.2	3366.8	3285.5	3252.0
25°	3295.0	3275.9	3223.3	3108.5	3022.4
27.5°	3146.8	3118.1	3060.7	2898.1	2797.7
30°	2984.2	2969.8	2888.5	2678.1	2601.6
32.5°	2831.1	2807.2	2721.2	2501.2	2439.0
35°	2673.3	2654.2	2525.1	2333.8	2276.4
37.5°	2515.5	2491.6	2329.0	2176.0	2104.2
40°	2357.7	2329.0	2152.1	2013.4	1936.8
42.5°	2209.4	2171.2	1999.0	1850.8	1764.7
45°	2051.6	2008.6	1836.4	1683.4	1616.4
47.5°	1893.8	1855.6	1697.7	1539.9	1463.4
50°	1726.4	1693.0	1549.5	1391.7	1310.4
52.5°	1587.7	1535.1	1396.4	1238.6	1171.7
55°	1425.1	1382.1	1253.0	1104.7	1047.3
57.5°	1276.9	1233.8	1114.3	975.6	927.8
60°	1138.2	1076.0	975.6	856.0	817.8
62.5°	985.2	937.3	851.3	750.8	798.7
65°	846.5	798.7	722.1	736.5	612.1
67.5°	693.4	669.5	602.6	535.6	516.5
70°	564.3	535.6	511.7	440.0	420.8
72.5°	449.5	420.8	387.4	349.1	334.8
75°	339.5	315.6	296.5	282.2	310.9
77.5°	234.3	224.8	210.4	196.1	191.3
80°	153.0	148.3	143.5	138.7	133.9
82.5°	90.9	90.9	90.9	90.9	90.9
85°	47.8	52.6	57.4	62.2	67.0
87.5°	28.7	28.7	33.5	38.3	43.0
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)