

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: P545891

Luminaire Tested: **FMR-12-4-LD4-1HI-50-UNV-81-88-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: P545891
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-50-UNV-81-88-EDD
Description: 1X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

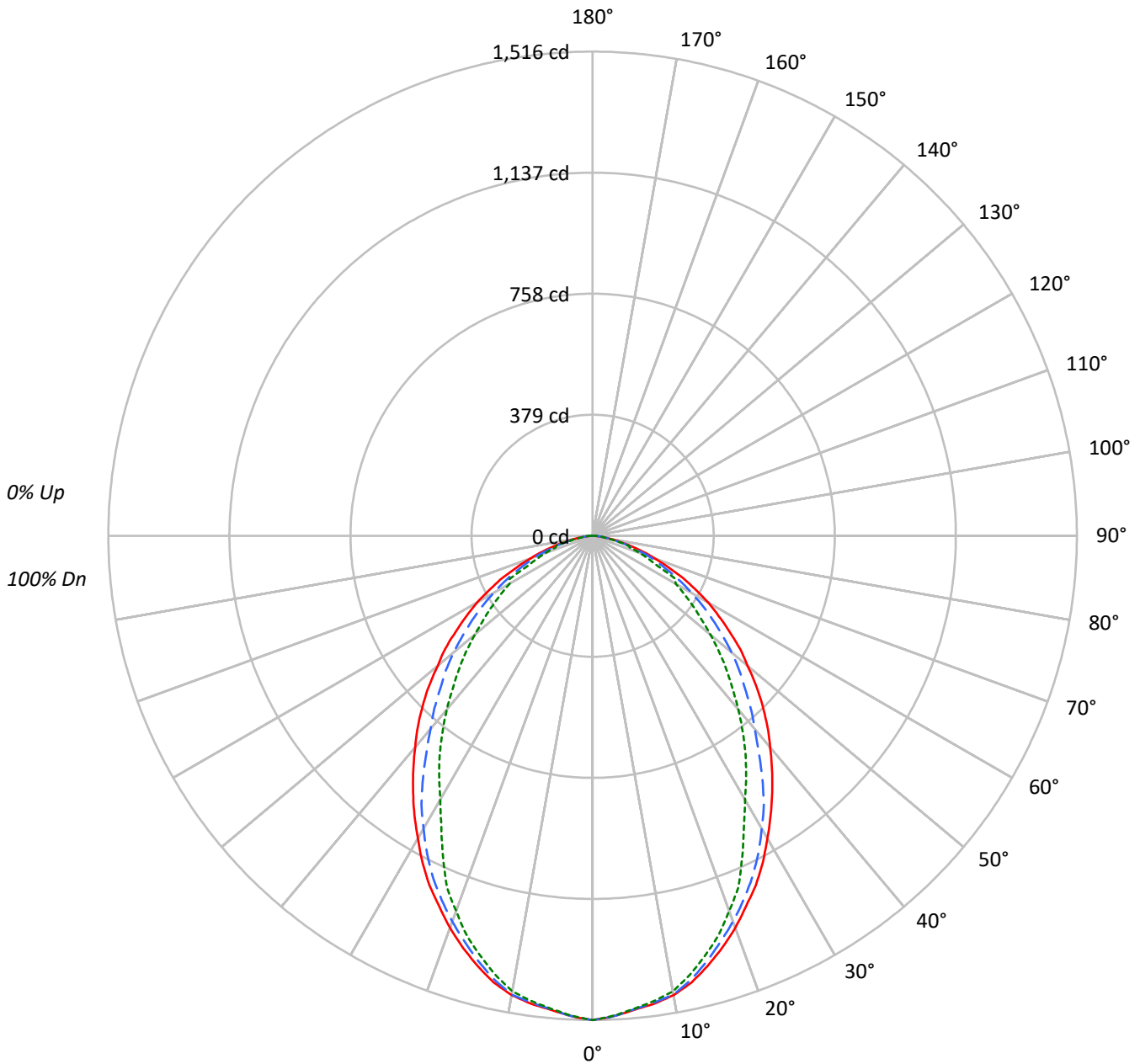
Lumens per Lamp: N/A
Luminaire Lumens: 2977.0 lumens
Efficiency: N/A
Efficacy: 68.9 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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

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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°	4081	4081	4081
5°	4025	4021	4016
10°	3990	3986	3957
15°	3883	3844	3790
20°	3740	3680	3580
25°	3586	3508	3290
30°	3399	3290	2963
35°	3219	3041	2741
40°	3036	2771	2494
45°	2862	2562	2255
50°	2650	2378	2011
55°	2451	2155	1801
60°	2245	1925	1614
65°	1976	1685	1429
70°	1628	1476	1214
75°	1294	1130	1185
80°	869	815	761
85°	540	648	756



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	141.2	4.7
10°-20°	387.4	13.0
20°-30°	536.3	18.0
30°-40°	571.9	19.2
40°-50°	521.7	17.5
50°-60°	408.7	13.7
60°-70°	266.4	8.9
70°-80°	118.0	4.0
80°-90°	25.3	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°	1064.9	35.8
0°-40°	1636.8	55.0
0°-60°	2567.3	86.2
0°-90°	2977.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2977.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1516	1516	1516	1516	1516	
5°	1490	1488	1488	1487	1487	141
15°	1394	1394	1380	1366	1360	392
25°	1208	1201	1182	1140	1108	555
35°	980	973	926	856	834	613
45°	752	736	673	617	593	579
55°	522	507	459	405	384	469
65°	310	293	265	270	224	306
75°	124	116	109	103	114	133
85°	18	19	21	23	24	24
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1516.4	1516.4	1516.4	1516.4	1516.4
2.5°	1505.9	1505.9	1505.9	1504.2	1504.2
5°	1490.1	1488.4	1488.4	1486.6	1486.6
7.5°	1477.9	1476.1	1474.4	1472.6	1469.1
10°	1460.3	1460.3	1458.6	1449.8	1448.1
12.5°	1432.3	1430.5	1423.5	1411.3	1407.8
15°	1393.7	1393.7	1379.7	1365.7	1360.4
17.5°	1351.7	1349.9	1332.4	1318.3	1311.3
20°	1306.1	1302.6	1285.0	1262.2	1250.0
22.5°	1255.2	1255.2	1234.2	1204.4	1192.1
25°	1207.9	1200.9	1181.6	1139.5	1108.0
27.5°	1153.5	1143.0	1122.0	1062.4	1025.6
30°	1093.9	1088.7	1058.9	981.7	953.7
32.5°	1037.8	1029.1	997.5	916.9	894.1
35°	980.0	973.0	925.6	855.5	834.5
37.5°	922.1	913.4	853.8	797.7	771.4
40°	864.3	853.8	788.9	738.1	710.0
42.5°	809.9	795.9	732.8	678.5	646.9
45°	752.1	736.3	673.2	617.1	592.6
47.5°	694.2	680.2	622.4	564.5	536.5
50°	632.9	620.6	568.0	510.2	480.4
52.5°	582.0	562.7	511.9	454.1	429.5
55°	522.4	506.7	459.3	405.0	383.9
57.5°	468.1	452.3	408.5	357.6	340.1
60°	417.2	394.5	357.6	313.8	299.8
62.5°	361.1	343.6	312.1	275.2	292.8
65°	310.3	292.8	264.7	270.0	224.4
67.5°	254.2	245.4	220.9	196.3	189.3
70°	206.9	196.3	187.6	161.3	154.3
72.5°	164.8	154.3	142.0	128.0	122.7
75°	124.5	115.7	108.7	103.4	114.0
77.5°	85.9	82.4	77.1	71.9	70.1
80°	56.1	54.3	52.6	50.8	49.1
82.5°	33.3	33.3	33.3	33.3	33.3
85°	17.5	19.3	21.0	22.8	24.5
87.5°	10.5	10.5	12.3	14.0	15.8
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)