

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: P546146

Luminaire Tested: **FMR-12-4-LD4-2HI-40-UNV-81-87-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: P546146
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-LD4-2HI-40-UNV-81-87-EDD
Description: 1X4 FMR TROFFER WITH .156 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

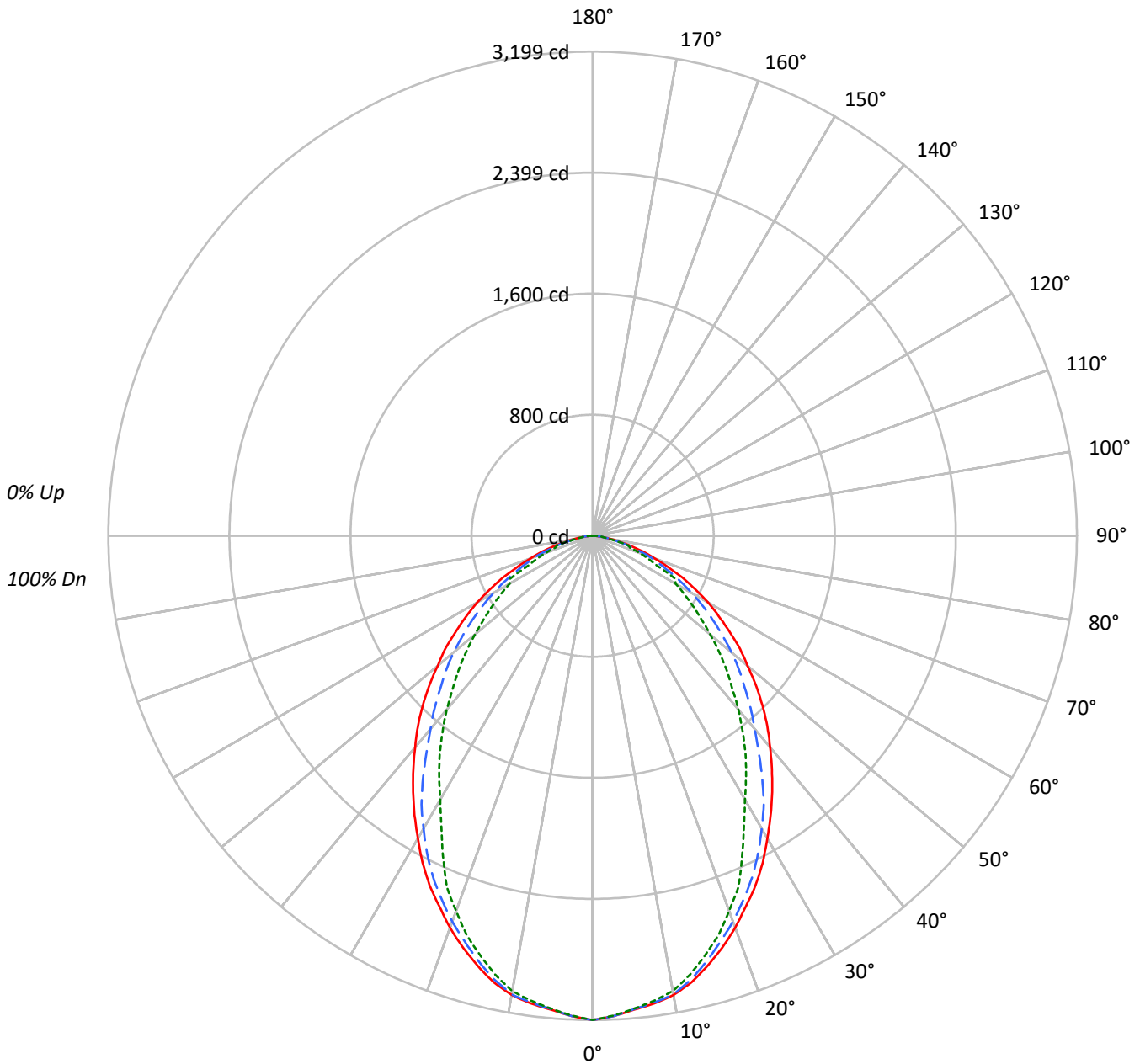
Lumens per Lamp: N/A
Luminaire Lumens: 6280.0 lumens
Efficiency: N/A
Efficacy: 72.7 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 86.4
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°	8608	8608	8608
5°	8491	8481	8471
10°	8418	8408	8347
15°	8191	8108	7995
20°	7890	7763	7551
25°	7566	7401	6940
30°	7171	6941	6251
35°	6791	6415	5783
40°	6405	5846	5262
45°	6038	5404	4757
50°	5589	5016	4242
55°	5171	4546	3800
60°	4737	4060	3404
65°	4168	3556	3014
70°	3434	3113	2560
75°	2730	2384	2499
80°	1833	1719	1604
85°	1142	1371	1599



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	297.8	4.7
10°-20°	817.2	13.0
20°-30°	1131.4	18.0
30°-40°	1206.4	19.2
40°-50°	1100.6	17.5
50°-60°	862.2	13.7
60°-70°	561.9	8.9
70°-80°	249.0	4.0
80°-90°	53.5	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°	2246.4	35.8
0°-40°	3452.8	55.0
0°-60°	5415.6	86.2
0°-90°	6280.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6280.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3199	3199	3199	3199	3199	
5°	3144	3140	3140	3136	3136	298
15°	2940	2940	2910	2881	2870	827
25°	2548	2533	2493	2404	2337	1170
35°	2067	2052	1953	1805	1760	1292
45°	1586	1553	1420	1302	1250	1222
55°	1102	1069	969	854	810	988
65°	655	618	558	570	473	645
75°	263	244	229	218	240	281
85°	37	41	44	48	52	51
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3198.9	3198.9	3198.9	3198.9	3198.9
2.5°	3176.8	3176.8	3176.8	3173.1	3173.1
5°	3143.5	3139.8	3139.8	3136.1	3136.1
7.5°	3117.6	3113.9	3110.2	3106.5	3099.1
10°	3080.6	3080.6	3076.9	3058.4	3054.7
12.5°	3021.4	3017.7	3002.9	2977.1	2969.7
15°	2940.1	2940.1	2910.5	2880.9	2869.8
17.5°	2851.3	2847.6	2810.6	2781.1	2766.3
20°	2755.2	2747.8	2710.8	2662.7	2636.8
22.5°	2647.9	2647.9	2603.5	2540.7	2514.8
25°	2548.1	2533.3	2492.6	2403.8	2337.3
27.5°	2433.4	2411.2	2366.9	2241.1	2163.5
30°	2307.7	2296.6	2233.7	2071.0	2011.8
32.5°	2189.3	2170.8	2104.3	1934.2	1886.1
35°	2067.3	2052.5	1952.7	1804.7	1760.3
37.5°	1945.3	1926.8	1801.0	1682.7	1627.2
40°	1823.2	1801.0	1664.2	1556.9	1497.8
42.5°	1708.6	1679.0	1545.9	1431.2	1364.6
45°	1586.5	1553.2	1420.1	1301.8	1250.0
47.5°	1464.5	1434.9	1312.9	1190.8	1131.7
50°	1335.1	1309.2	1198.2	1076.2	1013.3
52.5°	1227.8	1187.1	1079.9	957.8	906.1
55°	1102.1	1068.8	968.9	854.3	809.9
57.5°	987.4	954.1	861.7	754.4	717.5
60°	880.2	832.1	754.4	662.0	632.4
62.5°	761.8	724.8	658.3	580.6	617.6
65°	654.6	617.6	558.4	569.5	473.4
67.5°	536.2	517.7	466.0	414.2	399.4
70°	436.4	414.2	395.7	340.2	325.4
72.5°	347.6	325.4	299.6	270.0	258.9
75°	262.6	244.1	229.3	218.2	240.4
77.5°	181.2	173.8	162.7	151.6	147.9
80°	118.3	114.6	110.9	107.2	103.5
82.5°	70.3	70.3	70.3	70.3	70.3
85°	37.0	40.7	44.4	48.1	51.8
87.5°	22.2	22.2	25.9	29.6	33.3
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)