

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: P546118

Luminaire Tested: **FMR-12-4-LD4-2HI-35-UNV-81-97-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: P546118
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-35-UNV-81-97-EDD
Description: 1X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

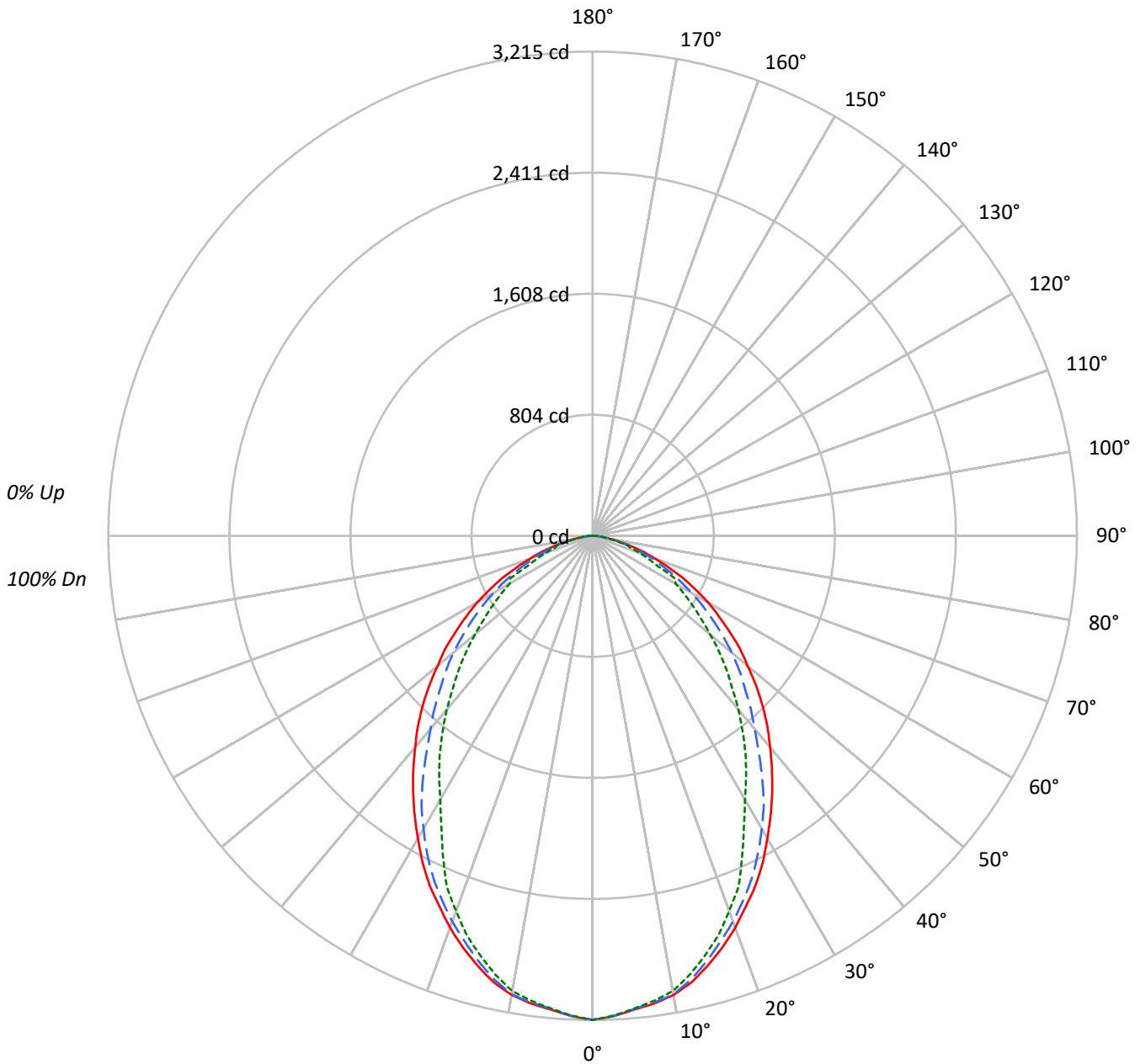
Lumens per Lamp: N/A
Luminaire Lumens: 6311.0 lumens
Efficiency: N/A
Efficacy: 73.0 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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

TEST NUMBER: P546118

CATALOG NUMBER: FMR-12-4-LD4-2HI-35-UNV-81-97-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°	8651	8651	8651
5°	8533	8523	8513
10°	8459	8449	8388
15°	8231	8148	8035
20°	7929	7801	7588
25°	7603	7437	6974
30°	7206	6975	6282
35°	6825	6446	5811
40°	6436	5875	5288
45°	6068	5431	4781
50°	5617	5041	4263
55°	5196	4568	3818
60°	4760	4081	3420
65°	4188	3573	3029
70°	3450	3129	2573
75°	2744	2396	2512
80°	1843	1728	1613
85°	1149	1377	1606



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	299.2	4.7
10°-20°	821.3	13.0
20°-30°	1137.0	18.0
30°-40°	1212.4	19.2
40°-50°	1106.0	17.5
50°-60°	866.5	13.7
60°-70°	564.7	8.9
70°-80°	250.2	4.0
80°-90°	53.7	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°	2257.5	35.8
0°-40°	3469.8	55.0
0°-60°	5442.3	86.2
0°-90°	6311.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6311.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3215	3215	3215	3215	3215	
5°	3159	3155	3155	3152	3152	300
15°	2955	2955	2925	2895	2884	831
25°	2561	2546	2505	2416	2349	1176
35°	2078	2063	1962	1814	1769	1299
45°	1594	1561	1427	1308	1256	1228
55°	1108	1074	974	858	814	993
65°	658	621	561	572	476	648
75°	264	245	230	219	242	283
85°	37	41	45	48	52	52
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3214.7	3214.7	3214.7	3214.7	3214.7
2.5°	3192.4	3192.4	3192.4	3188.7	3188.7
5°	3159.0	3155.3	3155.3	3151.6	3151.6
7.5°	3133.0	3129.3	3125.5	3121.8	3114.4
10°	3095.8	3095.8	3092.1	3073.5	3069.8
12.5°	3036.3	3032.6	3017.8	2991.8	2984.3
15°	2954.6	2954.6	2924.9	2895.1	2884.0
17.5°	2865.4	2861.7	2824.5	2794.8	2779.9
20°	2768.8	2761.3	2724.2	2675.9	2649.8
22.5°	2661.0	2661.0	2616.4	2553.2	2527.2
25°	2560.6	2545.8	2504.9	2415.7	2348.8
27.5°	2445.4	2423.1	2378.5	2252.2	2174.1
30°	2319.1	2307.9	2244.7	2081.2	2021.8
32.5°	2200.1	2181.6	2114.7	1943.7	1895.4
35°	2077.5	2062.6	1962.3	1813.6	1769.0
37.5°	1954.9	1936.3	1809.9	1691.0	1635.2
40°	1832.2	1809.9	1672.4	1564.6	1505.2
42.5°	1717.0	1687.3	1553.5	1438.3	1371.4
45°	1594.4	1560.9	1427.1	1308.2	1256.2
47.5°	1471.7	1442.0	1319.3	1196.7	1137.2
50°	1341.6	1315.6	1204.1	1081.5	1018.3
52.5°	1233.9	1193.0	1085.2	962.6	910.5
55°	1107.5	1074.1	973.7	858.5	813.9
57.5°	992.3	958.8	865.9	758.2	721.0
60°	884.5	836.2	758.2	665.2	635.5
62.5°	765.6	728.4	661.5	583.5	620.6
65°	657.8	620.6	561.2	572.3	475.7
67.5°	538.9	520.3	468.3	416.2	401.4
70°	438.5	416.2	397.7	341.9	327.0
72.5°	349.3	327.0	301.0	271.3	260.2
75°	263.9	245.3	230.4	219.3	241.6
77.5°	182.1	174.7	163.5	152.4	148.7
80°	118.9	115.2	111.5	107.8	104.1
82.5°	70.6	70.6	70.6	70.6	70.6
85°	37.2	40.9	44.6	48.3	52.0
87.5°	22.3	22.3	26.0	29.7	33.4
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)