

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: P546138

Luminaire Tested: **FMR-12-4-LD4-2HI-40-UNV-80-87-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: P546138
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-80-87-EDD
Description: 1X4 FMR TROFFER WITH .125 PRISMATIC ACRYLIC 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

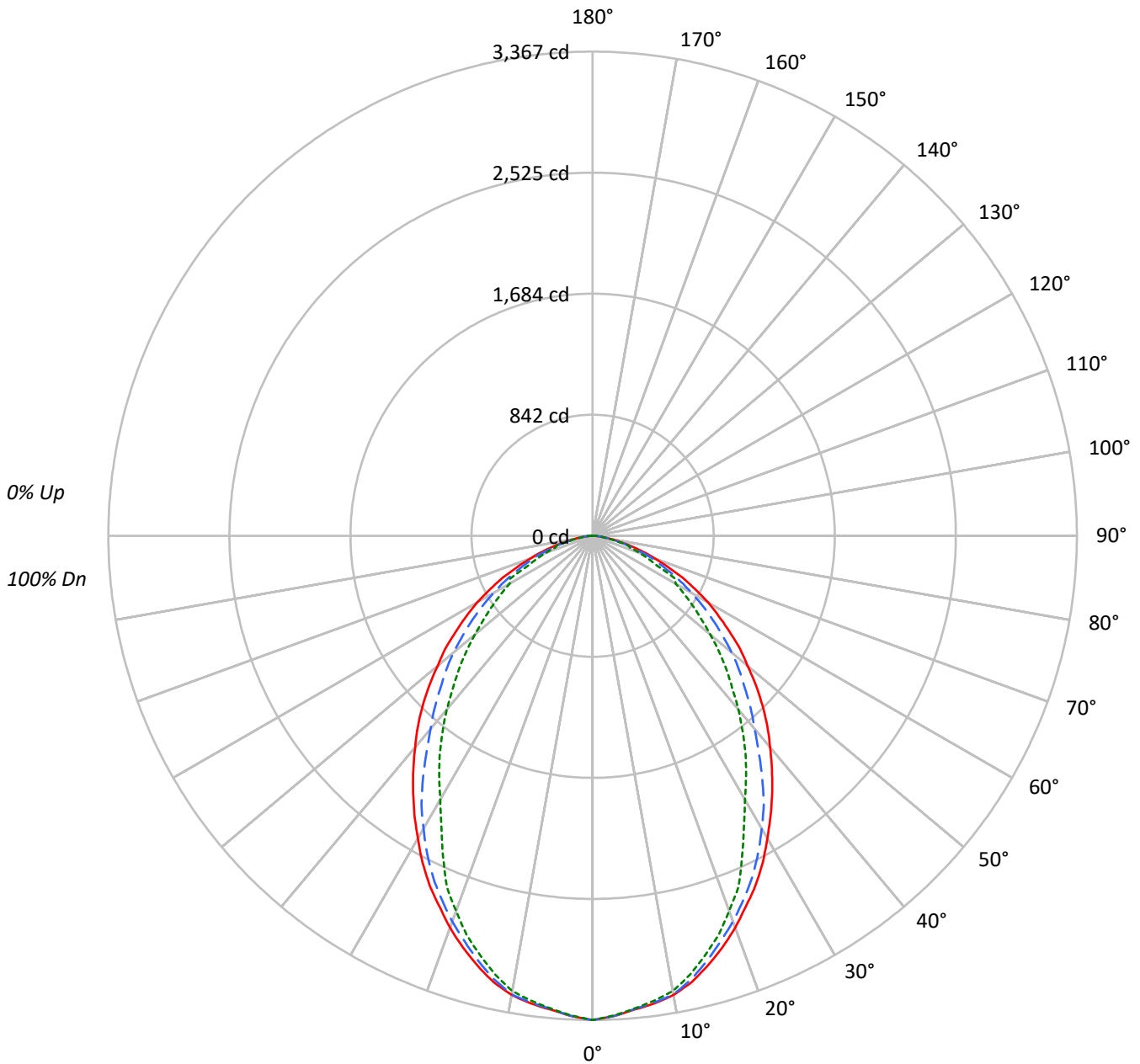
Lumens per Lamp: N/A
Luminaire Lumens: 6610.0 lumens
Efficiency: N/A
Efficacy: 76.5 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 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°	9061	9061	9061
5°	8938	8927	8917
10°	8860	8849	8786
15°	8621	8534	8415
20°	8304	8171	7948
25°	7963	7790	7304
30°	7547	7306	6580
35°	7148	6752	6087
40°	6741	6153	5538
45°	6355	5688	5007
50°	5883	5280	4465
55°	5442	4784	4000
60°	4986	4274	3582
65°	4387	3743	3172
70°	3614	3277	2695
75°	2874	2509	2630
80°	1931	1810	1689
85°	1201	1442	1683



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	313.4	4.7
10°-20°	860.2	13.0
20°-30°	1190.9	18.0
30°-40°	1269.8	19.2
40°-50°	1158.4	17.5
50°-60°	907.5	13.7
60°-70°	591.5	8.9
70°-80°	262.1	4.0
80°-90°	56.3	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°	2364.4	35.8
0°-40°	3634.2	55.0
0°-60°	5700.2	86.2
0°-90°	6610.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6610.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3367	3367	3367	3367	3367	
5°	3309	3305	3305	3301	3301	314
15°	3095	3095	3063	3032	3021	870
25°	2682	2666	2624	2530	2460	1231
35°	2176	2160	2055	1900	1853	1360
45°	1670	1635	1495	1370	1316	1286
55°	1160	1125	1020	899	852	1040
65°	689	650	588	600	498	679
75°	276	257	241	230	253	296
85°	39	43	47	51	54	54
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3367.0	3367.0	3367.0	3367.0	3367.0
2.5°	3343.7	3343.7	3343.7	3339.8	3339.8
5°	3308.7	3304.8	3304.8	3300.9	3300.9
7.5°	3281.4	3277.5	3273.6	3269.7	3261.9
10°	3242.5	3242.5	3238.6	3219.1	3215.2
12.5°	3180.2	3176.3	3160.7	3133.5	3125.7
15°	3094.6	3094.6	3063.4	3032.3	3020.6
17.5°	3001.1	2997.3	2958.3	2927.2	2911.6
20°	2899.9	2892.2	2853.2	2802.6	2775.4
22.5°	2787.1	2787.1	2740.3	2674.2	2646.9
25°	2682.0	2666.4	2623.6	2530.1	2460.1
27.5°	2561.3	2537.9	2491.2	2358.9	2277.1
30°	2428.9	2417.3	2351.1	2179.8	2117.5
32.5°	2304.4	2284.9	2214.9	2035.8	1985.2
35°	2175.9	2160.4	2055.3	1899.6	1852.8
37.5°	2047.5	2028.0	1895.7	1771.1	1712.7
40°	1919.0	1895.7	1751.6	1638.8	1576.5
42.5°	1798.4	1767.2	1627.1	1506.4	1436.3
45°	1669.9	1634.9	1494.7	1370.2	1315.7
47.5°	1541.4	1510.3	1381.9	1253.4	1191.1
50°	1405.2	1378.0	1261.2	1132.7	1066.6
52.5°	1292.3	1249.5	1136.6	1008.2	953.7
55°	1160.0	1124.9	1019.8	899.2	852.5
57.5°	1039.3	1004.3	907.0	794.1	755.2
60°	926.4	875.8	794.1	696.8	665.6
62.5°	801.9	762.9	692.9	611.1	650.1
65°	689.0	650.1	587.8	599.5	498.2
67.5°	564.4	545.0	490.5	436.0	420.4
70°	459.3	436.0	416.5	358.1	342.5
72.5°	365.9	342.5	315.3	284.2	272.5
75°	276.4	256.9	241.3	229.7	253.0
77.5°	190.7	182.9	171.3	159.6	155.7
80°	124.6	120.7	116.8	112.9	109.0
82.5°	74.0	74.0	74.0	74.0	74.0
85°	38.9	42.8	46.7	50.6	54.5
87.5°	23.4	23.4	27.2	31.1	35.0
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)