

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: P546349

Luminaire Tested: **FMR-12-4-LD4-2STD-40-UNV-82-96-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: P546349
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-LD4-2STD-40-UNV-82-96-EDD
Description: 1X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

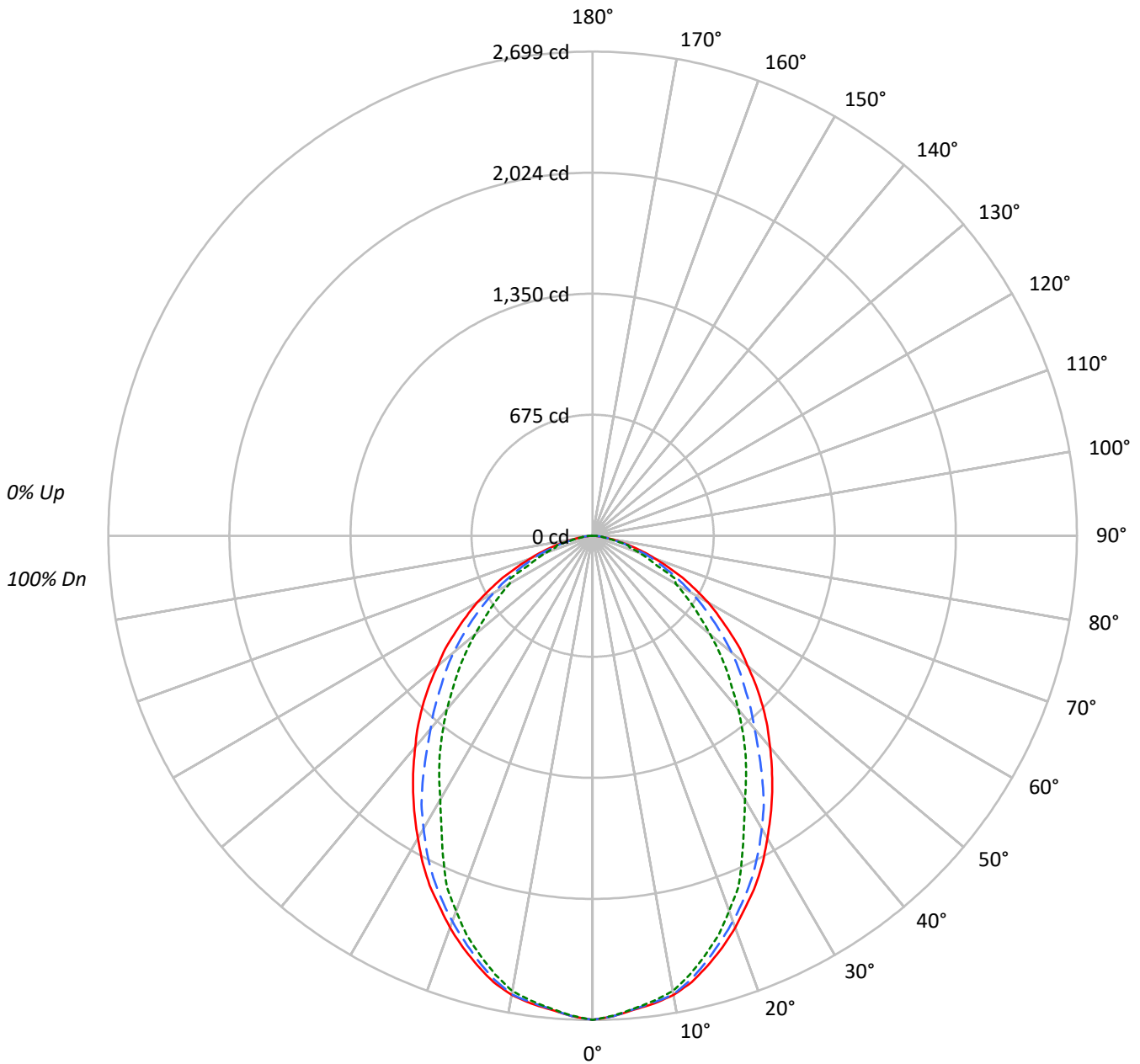
Lumens per Lamp: N/A
Luminaire Lumens: 5298.0 lumens
Efficiency: N/A
Efficacy: 79.5 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 66.6
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°	7262	7262	7262
5°	7163	7155	7147
10°	7101	7093	7042
15°	6910	6841	6745
20°	6656	6549	6370
25°	6383	6244	5855
30°	6049	5855	5274
35°	5729	5412	4879
40°	5403	4932	4439
45°	5093	4559	4013
50°	4715	4232	3579
55°	4362	3835	3206
60°	3996	3426	2871
65°	3516	3000	2543
70°	2897	2626	2161
75°	2303	2011	2109
80°	1547	1450	1354
85°	963	1155	1349



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	251.2	4.7
10°-20°	689.4	13.0
20°-30°	954.5	18.0
30°-40°	1017.8	19.2
40°-50°	928.5	17.5
50°-60°	727.4	13.7
60°-70°	474.1	8.9
70°-80°	210.0	4.0
80°-90°	45.1	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°	1895.1	35.8
0°-40°	2912.9	55.0
0°-60°	4568.8	86.2
0°-90°	5298.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5298.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2699	2699	2699	2699	2699	
5°	2652	2649	2649	2646	2646	252
15°	2480	2480	2455	2430	2421	697
25°	2150	2137	2103	2028	1972	987
35°	1744	1732	1647	1522	1485	1090
45°	1338	1310	1198	1098	1054	1031
55°	930	902	817	721	683	834
65°	552	521	471	480	399	544
75°	222	206	193	184	203	237
85°	31	34	37	41	44	43
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2698.7	2698.7	2698.7	2698.7	2698.7
2.5°	2680.0	2680.0	2680.0	2676.9	2676.9
5°	2651.9	2648.8	2648.8	2645.7	2645.7
7.5°	2630.1	2627.0	2623.9	2620.7	2614.5
10°	2598.9	2598.9	2595.8	2580.2	2577.1
12.5°	2549.0	2545.9	2533.4	2511.5	2505.3
15°	2480.3	2480.3	2455.4	2430.4	2421.1
17.5°	2405.5	2402.3	2371.1	2346.2	2333.7
20°	2324.3	2318.1	2286.9	2246.3	2224.5
22.5°	2233.9	2233.9	2196.4	2143.4	2121.5
25°	2149.6	2137.1	2102.8	2027.9	1971.8
27.5°	2052.9	2034.2	1996.7	1890.7	1825.2
30°	1946.8	1937.5	1884.4	1747.2	1697.2
32.5°	1847.0	1831.4	1775.2	1631.7	1591.2
35°	1744.0	1731.6	1647.3	1522.5	1485.1
37.5°	1641.1	1625.5	1519.4	1419.6	1372.8
40°	1538.1	1519.4	1404.0	1313.5	1263.6
42.5°	1441.4	1416.4	1304.1	1207.4	1151.3
45°	1338.4	1310.4	1198.0	1098.2	1054.5
47.5°	1235.5	1210.5	1107.6	1004.6	954.7
50°	1126.3	1104.5	1010.9	907.9	854.9
52.5°	1035.8	1001.5	911.0	808.1	764.4
55°	929.7	901.7	817.4	720.7	683.3
57.5°	833.0	804.9	726.9	636.5	605.3
60°	742.5	702.0	636.5	558.5	533.5
62.5°	642.7	611.5	555.3	489.8	521.0
65°	552.2	521.0	471.1	480.5	399.3
67.5°	452.4	436.8	393.1	349.4	337.0
70°	368.2	349.4	333.8	287.0	274.6
72.5°	293.3	274.6	252.7	227.8	218.4
75°	221.5	205.9	193.4	184.1	202.8
77.5°	152.9	146.6	137.3	127.9	124.8
80°	99.8	96.7	93.6	90.5	87.4
82.5°	59.3	59.3	59.3	59.3	59.3
85°	31.2	34.3	37.4	40.6	43.7
87.5°	18.7	18.7	21.8	25.0	28.1
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)