

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: P546338

Luminaire Tested: **FMR-12-4-LD4-2STD-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: P546338
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-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

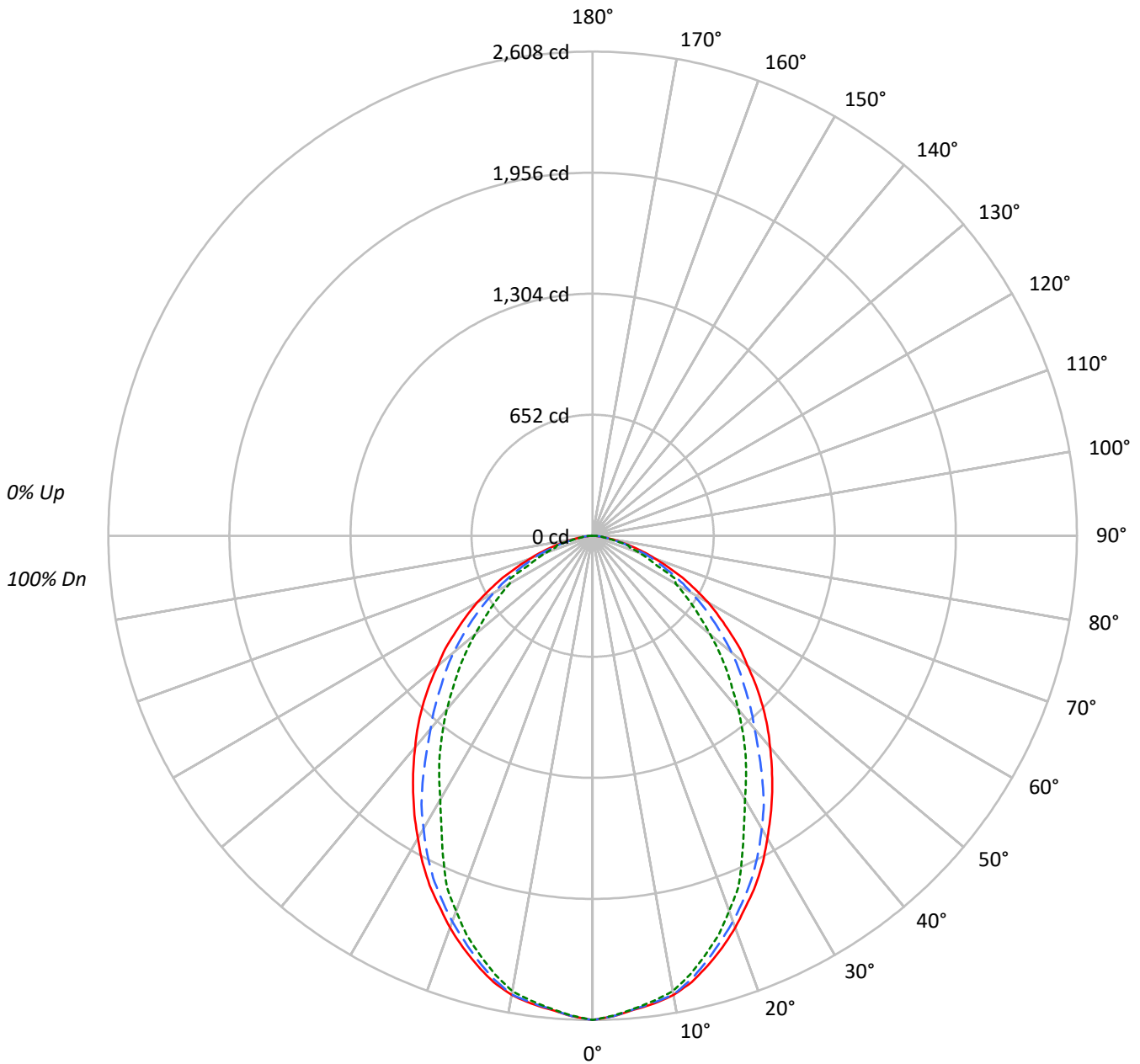
Lumens per Lamp: N/A
Luminaire Lumens: 5120.0 lumens
Efficiency: N/A
Efficacy: 76.9 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 66.6
Input Voltage (V): NR
Input Current (A_{in}): 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°	7018	7018	7018
5°	6923	6915	6907
10°	6863	6855	6805
15°	6678	6611	6518
20°	6432	6329	6156
25°	6168	6034	5658
30°	5846	5659	5097
35°	5537	5230	4715
40°	5221	4766	4290
45°	4923	4406	3878
50°	4557	4090	3458
55°	4215	3706	3098
60°	3862	3310	2775
65°	3398	2899	2457
70°	2799	2538	2087
75°	2226	1943	2038
80°	1495	1402	1308
85°	932	1118	1303



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	242.8	4.7
10°-20°	666.3	13.0
20°-30°	922.4	18.0
30°-40°	983.6	19.2
40°-50°	897.3	17.5
50°-60°	703.0	13.7
60°-70°	458.2	8.9
70°-80°	203.0	4.0
80°-90°	43.6	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°	1831.5	35.8
0°-40°	2815.0	55.0
0°-60°	4415.3	86.2
0°-90°	5120.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5120.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2608	2608	2608	2608	2608	
5°	2563	2560	2560	2557	2557	243
15°	2397	2397	2373	2349	2340	674
25°	2077	2065	2032	1960	1906	954
35°	1685	1673	1592	1471	1435	1054
45°	1294	1266	1158	1061	1019	996
55°	898	871	790	696	660	806
65°	534	504	455	464	386	526
75°	214	199	187	178	196	229
85°	30	33	36	39	42	42
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2608.1	2608.1	2608.1	2608.1	2608.1
2.5°	2590.0	2590.0	2590.0	2587.0	2587.0
5°	2562.8	2559.8	2559.8	2556.8	2556.8
7.5°	2541.7	2538.7	2535.7	2532.7	2526.7
10°	2511.6	2511.6	2508.6	2493.5	2490.5
12.5°	2463.3	2460.3	2448.3	2427.2	2421.1
15°	2397.0	2397.0	2372.9	2348.8	2339.7
17.5°	2324.6	2321.6	2291.5	2267.4	2255.3
20°	2246.2	2240.2	2210.1	2170.9	2149.8
22.5°	2158.8	2158.8	2122.6	2071.4	2050.3
25°	2077.4	2065.3	2032.2	1959.8	1905.5
27.5°	1983.9	1965.8	1929.7	1827.1	1763.8
30°	1881.4	1872.4	1821.1	1688.5	1640.2
32.5°	1784.9	1769.9	1715.6	1576.9	1537.7
35°	1685.4	1673.4	1592.0	1471.4	1435.2
37.5°	1585.9	1570.9	1468.4	1371.9	1326.6
40°	1486.4	1468.4	1356.8	1269.4	1221.1
42.5°	1393.0	1368.9	1260.3	1166.8	1112.6
45°	1293.5	1266.3	1157.8	1061.3	1019.1
47.5°	1194.0	1169.9	1070.4	970.9	922.6
50°	1088.5	1067.3	976.9	877.4	826.1
52.5°	1001.0	967.8	880.4	780.9	738.7
55°	898.5	871.4	790.0	696.5	660.3
57.5°	805.0	777.9	702.5	615.1	584.9
60°	717.6	678.4	615.1	539.7	515.6
62.5°	621.1	591.0	536.7	473.4	503.5
65°	533.7	503.5	455.3	464.3	385.9
67.5°	437.2	422.1	379.9	337.7	325.6
70°	355.8	337.7	322.6	277.4	265.3
72.5°	283.4	265.3	244.2	220.1	211.1
75°	214.1	199.0	186.9	177.9	196.0
77.5°	147.7	141.7	132.7	123.6	120.6
80°	96.5	93.5	90.5	87.4	84.4
82.5°	57.3	57.3	57.3	57.3	57.3
85°	30.2	33.2	36.2	39.2	42.2
87.5°	18.1	18.1	21.1	24.1	27.1
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)