

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: P546316

Luminaire Tested: **FMR-12-4-LD4-2STD-35-UNV-82-94-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: P546316
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-35-UNV-82-94-EDD
Description: 1X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

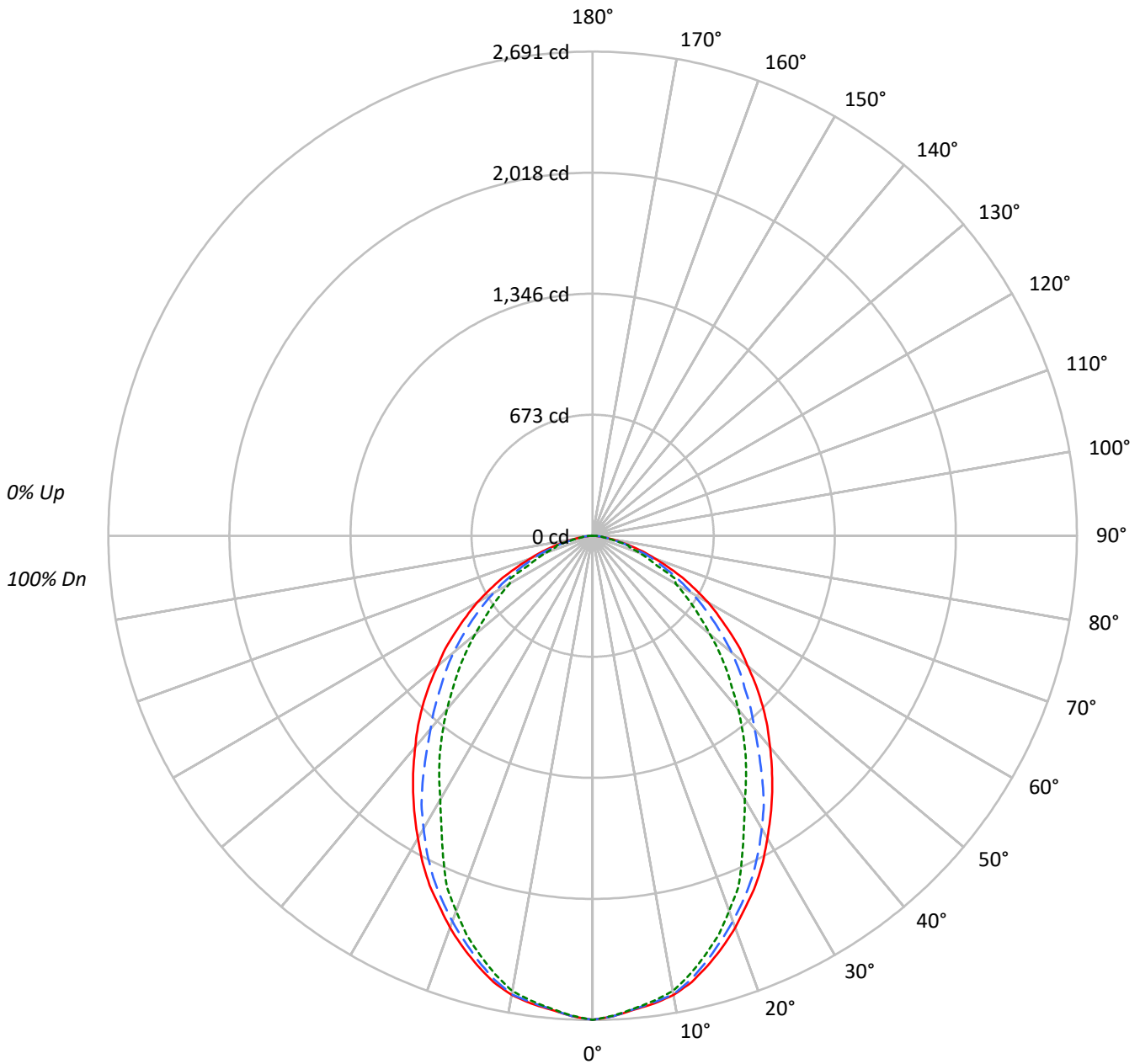
Lumens per Lamp: N/A
Luminaire Lumens: 5282.0 lumens
Efficiency: N/A
Efficacy: 79.3 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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				20				20	
RC	80				70				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				100
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87				87
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75				75
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65				65
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56				56
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50				50
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44				44
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40				40
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36				36
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33				33
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30				30

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	7240	7240	7240
5°	7142	7133	7125
10°	7080	7071	7021
15°	6889	6820	6724
20°	6636	6529	6351
25°	6363	6225	5837
30°	6031	5838	5258
35°	5712	5395	4864
40°	5387	4917	4425
45°	5078	4545	4001
50°	4701	4219	3568
55°	4349	3824	3196
60°	3984	3415	2863
65°	3506	2991	2535
70°	2888	2618	2153
75°	2296	2006	2102
80°	1542	1446	1350
85°	960	1152	1343



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	250.5	4.7
10°-20°	687.4	13.0
20°-30°	951.6	18.0
30°-40°	1014.7	19.2
40°-50°	925.7	17.5
50°-60°	725.2	13.7
60°-70°	472.7	8.9
70°-80°	209.4	4.0
80°-90°	45.0	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°	1889.4	35.8
0°-40°	2904.1	55.0
0°-60°	4555.0	86.2
0°-90°	5282.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5282.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2691	2691	2691	2691	2691	
5°	2644	2641	2641	2638	2638	251
15°	2473	2473	2448	2423	2414	695
25°	2143	2131	2096	2022	1966	984
35°	1739	1726	1642	1518	1481	1087
45°	1334	1306	1194	1095	1051	1028
55°	927	899	815	718	681	831
65°	551	520	470	479	398	543
75°	221	205	193	184	202	237
85°	31	34	37	40	44	43
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2690.6	2690.6	2690.6	2690.6	2690.6
2.5°	2671.9	2671.9	2671.9	2668.8	2668.8
5°	2643.9	2640.8	2640.8	2637.7	2637.7
7.5°	2622.1	2619.0	2615.9	2612.8	2606.6
10°	2591.0	2591.0	2587.9	2572.4	2569.3
12.5°	2541.3	2538.2	2525.7	2504.0	2497.7
15°	2472.8	2472.8	2448.0	2423.1	2413.7
17.5°	2398.2	2395.1	2364.0	2339.1	2326.7
20°	2317.3	2311.1	2280.0	2239.6	2217.8
22.5°	2227.1	2227.1	2189.8	2136.9	2115.1
25°	2143.1	2130.7	2096.5	2021.8	1965.8
27.5°	2046.7	2028.0	1990.7	1885.0	1819.6
30°	1941.0	1931.6	1878.7	1741.9	1692.1
32.5°	1841.4	1825.9	1769.9	1626.8	1586.4
35°	1738.8	1726.3	1642.3	1517.9	1480.6
37.5°	1636.1	1620.6	1514.8	1415.3	1368.6
40°	1533.5	1514.8	1399.7	1309.5	1259.8
42.5°	1437.0	1412.2	1300.2	1203.8	1147.8
45°	1334.4	1306.4	1194.4	1094.9	1051.3
47.5°	1231.8	1206.9	1104.2	1001.6	951.8
50°	1122.9	1101.1	1007.8	905.2	852.3
52.5°	1032.7	998.5	908.3	805.6	762.1
55°	926.9	898.9	815.0	718.5	681.2
57.5°	830.5	802.5	724.7	634.5	603.4
60°	740.3	699.9	634.5	556.8	531.9
62.5°	640.8	609.7	553.7	488.3	519.5
65°	550.6	519.5	469.7	479.0	398.1
67.5°	451.0	435.5	391.9	348.4	335.9
70°	367.0	348.4	332.8	286.2	273.7
72.5°	292.4	273.7	252.0	227.1	217.7
75°	220.8	205.3	192.9	183.5	202.2
77.5°	152.4	146.2	136.9	127.5	124.4
80°	99.5	96.4	93.3	90.2	87.1
82.5°	59.1	59.1	59.1	59.1	59.1
85°	31.1	34.2	37.3	40.4	43.5
87.5°	18.7	18.7	21.8	24.9	28.0
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)