

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: P547109

Luminaire Tested: **FMR-24-4-LD4-3LO-40-UNV-81-96-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: P547109
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-24-4-LD4-3LO-40-UNV-81-96-EDD
Description: 2X4 FMR TROFFER WITH .156 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

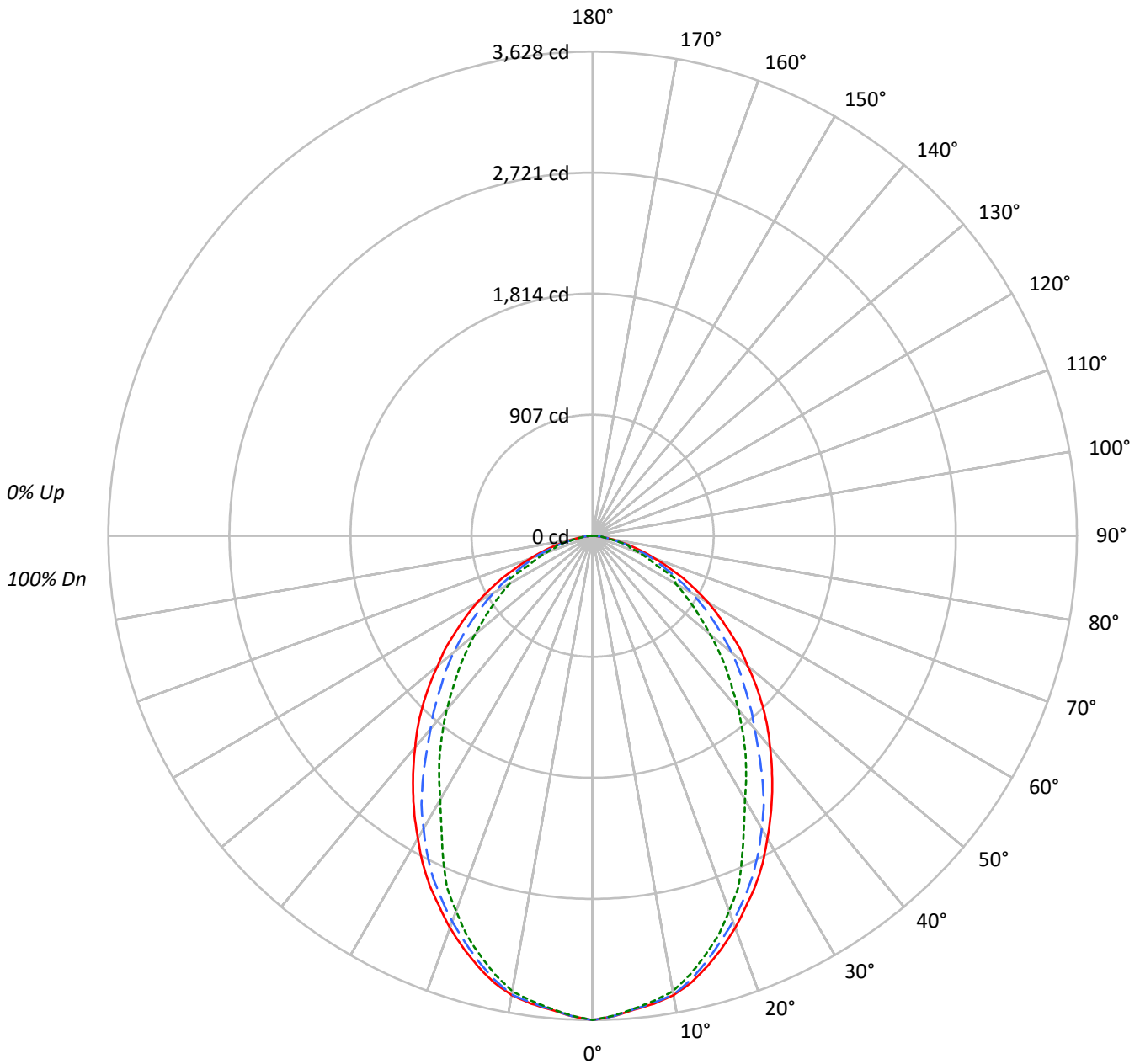
Lumens per Lamp: N/A
Luminaire Lumens: 7123.0 lumens
Efficiency: N/A
Efficacy: 101.5 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 70.2
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				
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°	4882	4882	4882
5°	4816	4810	4804
10°	4774	4768	4734
15°	4645	4598	4534
20°	4474	4402	4282
25°	4291	4197	3936
30°	4067	3936	3545
35°	3851	3638	3279
40°	3632	3315	2984
45°	3424	3065	2698
50°	3170	2845	2406
55°	2932	2578	2155
60°	2686	2303	1930
65°	2364	2017	1709
70°	1947	1766	1452
75°	1548	1352	1418
80°	1040	975	910
85°	647	777	906



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	337.8	4.7
10°-20°	926.9	13.0
20°-30°	1283.3	18.0
30°-40°	1368.3	19.2
40°-50°	1248.3	17.5
50°-60°	978.0	13.7
60°-70°	637.4	8.9
70°-80°	282.4	4.0
80°-90°	60.6	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°	2548.0	35.8
0°-40°	3916.3	55.0
0°-60°	6142.6	86.2
0°-90°	7123.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7123.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3628	3628	3628	3628	3628	
5°	3565	3561	3561	3557	3557	338
15°	3335	3335	3301	3268	3255	937
25°	2890	2873	2827	2726	2651	1327
35°	2345	2328	2215	2047	1997	1466
45°	1800	1762	1611	1476	1418	1386
55°	1250	1212	1099	969	919	1121
65°	742	700	633	646	537	732
75°	298	277	260	248	273	319
85°	42	46	50	54	59	58
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3628.4	3628.4	3628.4	3628.4	3628.4
2.5°	3603.2	3603.2	3603.2	3599.0	3599.0
5°	3565.4	3561.2	3561.2	3557.1	3557.1
7.5°	3536.1	3531.9	3527.7	3523.5	3515.1
10°	3494.1	3494.1	3489.9	3469.0	3464.8
12.5°	3427.0	3422.8	3406.0	3376.7	3368.3
15°	3334.7	3334.7	3301.2	3267.6	3255.0
17.5°	3234.1	3229.9	3187.9	3154.4	3137.6
20°	3125.0	3116.6	3074.7	3020.1	2990.8
22.5°	3003.4	3003.4	2953.0	2881.7	2852.4
25°	2890.1	2873.3	2827.2	2726.5	2651.0
27.5°	2760.1	2734.9	2684.6	2542.0	2453.9
30°	2617.5	2604.9	2533.6	2349.0	2281.9
32.5°	2483.2	2462.3	2386.7	2193.8	2139.3
35°	2344.8	2328.0	2214.8	2047.0	1996.6
37.5°	2206.4	2185.4	2042.8	1908.6	1845.6
40°	2068.0	2042.8	1887.6	1765.9	1698.8
42.5°	1937.9	1904.4	1753.4	1623.3	1547.8
45°	1799.5	1761.7	1610.7	1476.5	1417.8
47.5°	1661.1	1627.5	1489.1	1350.7	1283.6
50°	1514.3	1484.9	1359.1	1220.6	1149.3
52.5°	1392.6	1346.5	1224.8	1086.4	1027.7
55°	1250.0	1212.3	1099.0	969.0	918.6
57.5°	1120.0	1082.2	977.4	855.7	813.8
60°	998.3	943.8	855.7	750.8	717.3
62.5°	864.1	822.1	746.6	658.6	700.5
65°	742.5	700.5	633.4	646.0	536.9
67.5°	608.2	587.2	528.5	469.8	453.0
70°	495.0	469.8	448.8	385.9	369.1
72.5°	394.3	369.1	339.8	306.2	293.6
75°	297.8	276.8	260.1	247.5	272.7
77.5°	205.5	197.1	184.6	172.0	167.8
80°	134.2	130.0	125.8	121.6	117.4
82.5°	79.7	79.7	79.7	79.7	79.7
85°	41.9	46.1	50.3	54.5	58.7
87.5°	25.2	25.2	29.4	33.6	37.8
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)