

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: P546801

Luminaire Tested: **FMR-24-4-LD4-2LO-35-UNV-93-86-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: P546801
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-LD4-2LO-35-UNV-93-86-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

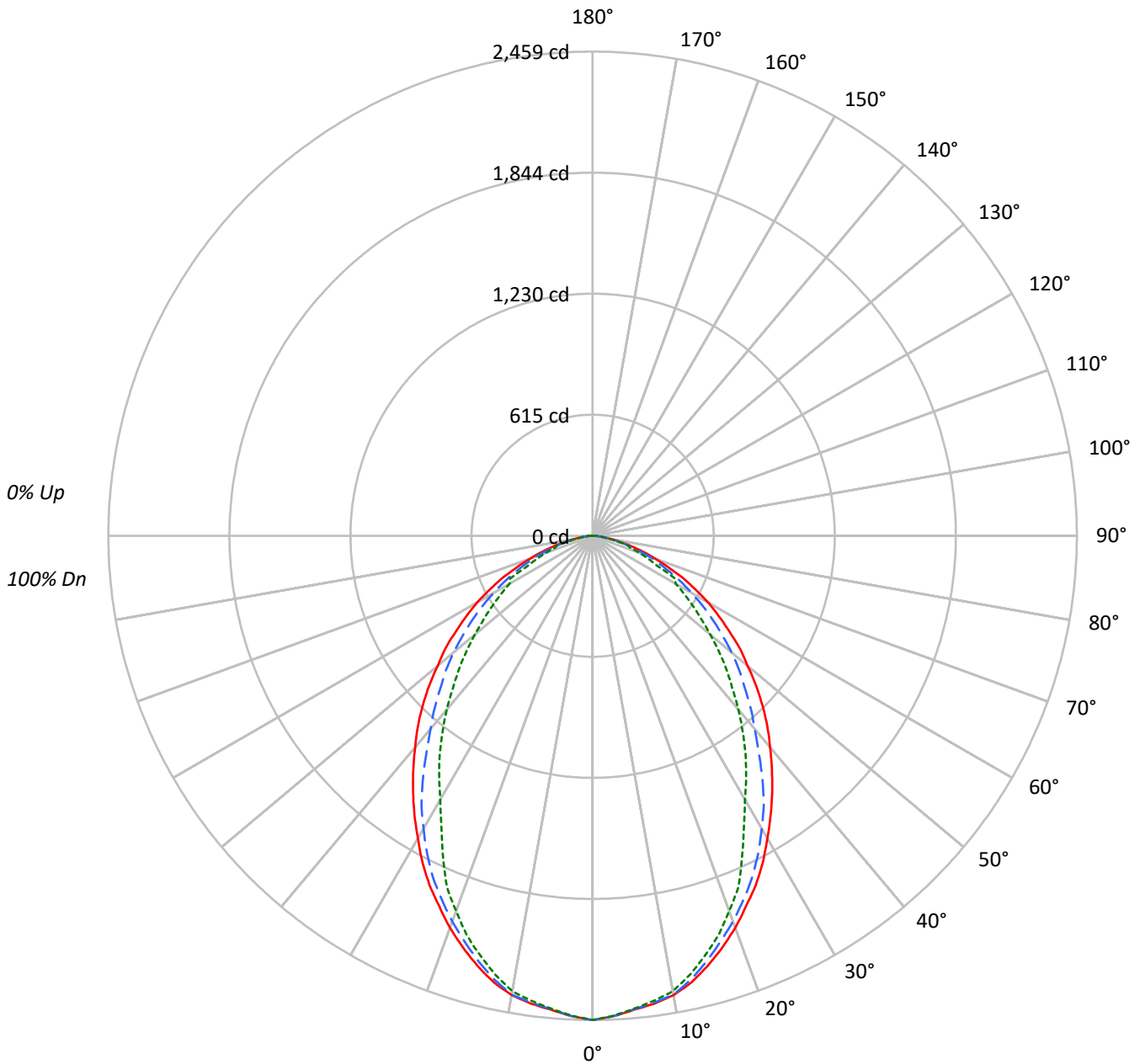
Lumens per Lamp: N/A
Luminaire Lumens: 4828.0 lumens
Efficiency: N/A
Efficacy: 103.2 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 46.8
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°	3309	3309	3309
5°	3264	3260	3256
10°	3236	3232	3208
15°	3148	3117	3073
20°	3033	2984	2903
25°	2908	2845	2668
30°	2756	2668	2403
35°	2610	2466	2223
40°	2462	2247	2023
45°	2321	2077	1829
50°	2148	1928	1631
55°	1988	1747	1460
60°	1821	1561	1308
65°	1602	1367	1159
70°	1320	1197	984
75°	1050	917	961
80°	705	661	617
85°	438	526	614



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	228.9	4.7
10°-20°	628.3	13.0
20°-30°	869.8	18.0
30°-40°	927.5	19.2
40°-50°	846.1	17.5
50°-60°	662.9	13.7
60°-70°	432.0	8.9
70°-80°	191.4	4.0
80°-90°	41.1	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°	1727.0	35.8
0°-40°	2654.5	55.0
0°-60°	4163.5	86.2
0°-90°	4828.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4828.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2459	2459	2459	2459	2459	
5°	2417	2414	2414	2411	2411	229
15°	2260	2260	2238	2215	2206	635
25°	1959	1948	1916	1848	1797	899
35°	1589	1578	1501	1388	1353	994
45°	1220	1194	1092	1001	961	940
55°	847	822	745	657	623	760
65°	503	475	429	438	364	496
75°	202	188	176	168	185	216
85°	28	31	34	37	40	39
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2459.3	2459.3	2459.3	2459.3	2459.3
2.5°	2442.3	2442.3	2442.3	2439.4	2439.4
5°	2416.7	2413.8	2413.8	2411.0	2411.0
7.5°	2396.8	2393.9	2391.1	2388.2	2382.6
10°	2368.3	2368.3	2365.5	2351.3	2348.4
12.5°	2322.8	2320.0	2308.6	2288.7	2283.0
15°	2260.3	2260.3	2237.6	2214.8	2206.3
17.5°	2192.1	2189.2	2160.8	2138.0	2126.7
20°	2118.1	2112.5	2084.0	2047.1	2027.2
22.5°	2035.7	2035.7	2001.6	1953.2	1933.3
25°	1958.9	1947.6	1916.3	1848.0	1796.9
27.5°	1870.8	1853.7	1819.6	1722.9	1663.2
30°	1774.1	1765.6	1717.3	1592.2	1546.7
32.5°	1683.1	1668.9	1617.7	1487.0	1450.0
35°	1589.3	1577.9	1501.2	1387.5	1353.3
37.5°	1495.5	1481.3	1384.6	1293.6	1251.0
40°	1401.7	1384.6	1279.4	1197.0	1151.5
42.5°	1313.5	1290.8	1188.4	1100.3	1049.1
45°	1219.7	1194.1	1091.8	1000.8	961.0
47.5°	1125.9	1103.1	1009.3	915.5	870.0
50°	1026.4	1006.5	921.2	827.4	779.0
52.5°	943.9	912.6	830.2	736.4	696.6
55°	847.3	821.7	744.9	656.8	622.6
57.5°	759.1	733.5	662.5	580.0	551.6
60°	676.7	639.7	580.0	508.9	486.2
62.5°	585.7	557.3	506.1	446.4	474.8
65°	503.2	474.8	429.3	437.8	363.9
67.5°	412.3	398.0	358.2	318.4	307.1
70°	335.5	318.4	304.2	261.6	250.2
72.5°	267.3	250.2	230.3	207.5	199.0
75°	201.9	187.6	176.3	167.7	184.8
77.5°	139.3	133.6	125.1	116.6	113.7
80°	91.0	88.1	85.3	82.5	79.6
82.5°	54.0	54.0	54.0	54.0	54.0
85°	28.4	31.3	34.1	37.0	39.8
87.5°	17.1	17.1	19.9	22.7	25.6
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)