

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: P546730

Luminaire Tested: **FMR-24-4-LD4-2HI-40-UNV-82-87-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: P546730
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-LD4-2HI-40-UNV-82-87-EDD
Description: 2X4 FMR TROFFER WITH .187 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

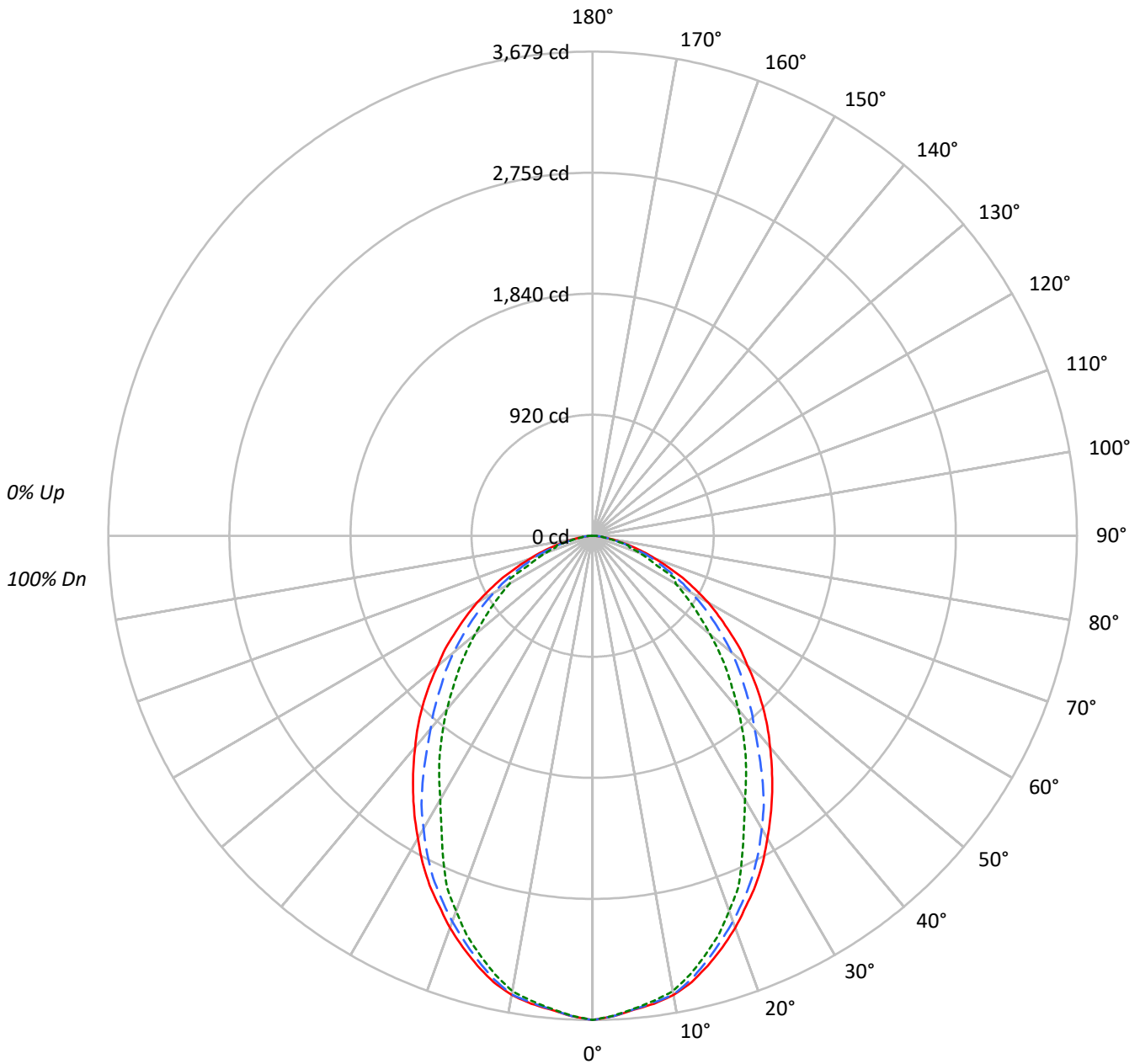
Lumens per Lamp: N/A
Luminaire Lumens: 7223.0 lumens
Efficiency: N/A
Efficacy: 83.6 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 86.4
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°	4950	4950	4950
5°	4883	4877	4872
10°	4841	4835	4800
15°	4710	4663	4598
20°	4537	4464	4342
25°	4351	4256	3991
30°	4124	3991	3595
35°	3905	3689	3326
40°	3683	3362	3026
45°	3472	3108	2736
50°	3214	2885	2440
55°	2974	2614	2185
60°	2724	2335	1957
65°	2397	2045	1734
70°	1974	1790	1472
75°	1570	1371	1437
80°	1055	989	923
85°	656	787	919



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	342.5	4.7
10°-20°	939.9	13.0
20°-30°	1301.3	18.0
30°-40°	1387.6	19.2
40°-50°	1265.9	17.5
50°-60°	991.7	13.7
60°-70°	646.3	8.9
70°-80°	286.3	4.0
80°-90°	61.5	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°	2583.7	35.8
0°-40°	3971.3	55.0
0°-60°	6228.8	86.2
0°-90°	7223.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7223.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3679	3679	3679	3679	3679	
5°	3616	3611	3611	3607	3607	343
15°	3382	3382	3348	3314	3301	951
25°	2931	2914	2867	2765	2688	1345
35°	2378	2361	2246	2076	2025	1487
45°	1825	1786	1633	1497	1438	1406
55°	1268	1229	1114	983	932	1137
65°	753	710	642	655	544	742
75°	302	281	264	251	276	324
85°	42	47	51	55	60	59
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3679.3	3679.3	3679.3	3679.3	3679.3
2.5°	3653.8	3653.8	3653.8	3649.5	3649.5
5°	3615.5	3611.2	3611.2	3607.0	3607.0
7.5°	3585.7	3581.5	3577.2	3573.0	3564.5
10°	3543.2	3543.2	3538.9	3517.7	3513.4
12.5°	3475.1	3470.9	3453.9	3424.1	3415.6
15°	3381.6	3381.6	3347.5	3313.5	3300.7
17.5°	3279.5	3275.2	3232.7	3198.7	3181.6
20°	3168.9	3160.4	3117.8	3062.5	3032.8
22.5°	3045.5	3045.5	2994.5	2922.2	2892.4
25°	2930.7	2913.7	2866.9	2764.8	2688.2
27.5°	2798.8	2773.3	2722.3	2577.6	2488.3
30°	2654.2	2641.4	2569.1	2382.0	2313.9
32.5°	2518.1	2496.8	2420.3	2224.6	2169.3
35°	2377.7	2360.7	2245.9	2075.7	2024.7
37.5°	2237.4	2216.1	2071.5	1935.4	1871.6
40°	2097.0	2071.5	1914.1	1790.7	1722.7
42.5°	1965.1	1931.1	1778.0	1646.1	1569.6
45°	1824.8	1786.5	1633.4	1497.2	1437.7
47.5°	1684.4	1650.4	1510.0	1369.6	1301.6
50°	1535.5	1505.7	1378.1	1237.8	1165.5
52.5°	1412.2	1365.4	1242.0	1101.7	1042.1
55°	1267.6	1229.3	1114.4	982.6	931.5
57.5°	1135.7	1097.4	991.1	867.7	825.2
60°	1012.3	957.0	867.7	761.4	727.4
62.5°	876.2	833.7	757.1	667.8	710.3
65°	752.9	710.3	642.3	655.0	544.5
67.5°	616.8	595.5	535.9	476.4	459.4
70°	501.9	476.4	455.1	391.3	374.3
72.5°	399.8	374.3	344.5	310.5	297.7
75°	302.0	280.7	263.7	251.0	276.5
77.5°	208.4	199.9	187.2	174.4	170.1
80°	136.1	131.9	127.6	123.4	119.1
82.5°	80.8	80.8	80.8	80.8	80.8
85°	42.5	46.8	51.0	55.3	59.5
87.5°	25.5	25.5	29.8	34.0	38.3
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)