

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: P589649

Luminaire Tested: **FMR-24-2-LD4-4HI-50-UNV-93-88-EDD**

Issue Date: 12/8/2021



Test Information

Test Method: LM-79-08
Report Number: P589649
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-1)
Test Lab: INNOVATION CENTER
Issue Date: 12/8/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: FMR-24-2-LD4-4HI-50-UNV-93-88-EDD
Description: 2X2 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

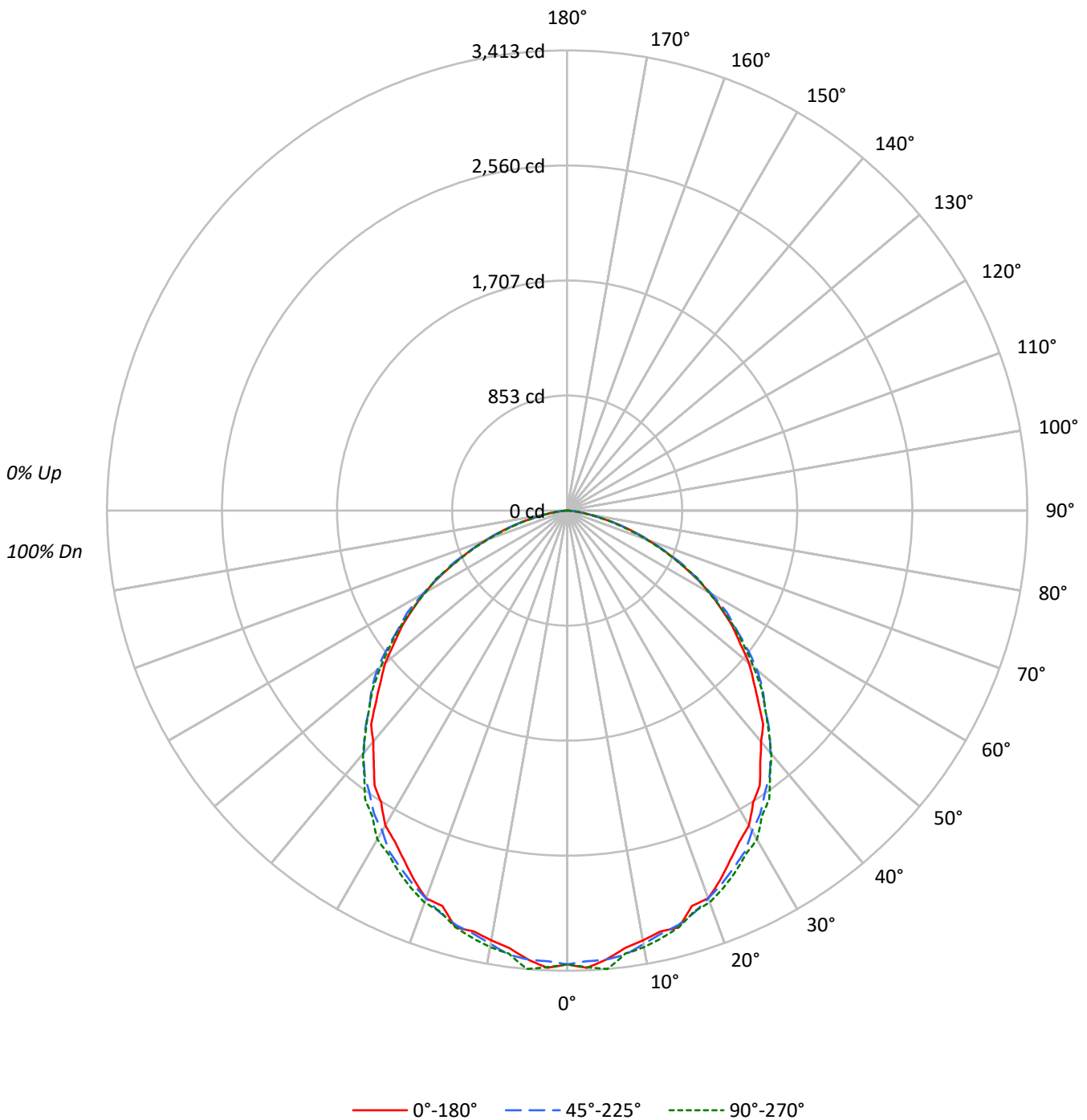
Lumens per Lamp: N/A
Luminaire Lumens: 8482.0 lumens
Efficiency: N/A
Efficacy: 98.2 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

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	
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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	110	105	101	98	107	103	100	96	99	96	93	95	93	90	91	90	88	86
2	100	93	86	81	98	91	85	80	87	82	78	84	80	76	81	78	75	73
3	92	82	74	68	89	80	73	67	77	71	66	75	69	65	72	68	64	62
4	84	73	64	58	82	71	64	58	69	62	57	67	61	56	65	59	55	53
5	78	65	57	50	76	64	56	50	62	55	49	60	54	49	58	53	48	46
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	53	47	43	41
7	67	53	45	39	65	53	45	39	51	44	39	50	43	38	48	42	38	36
8	62	49	41	35	61	48	40	35	47	40	34	46	39	34	44	39	34	32
9	58	45	37	31	57	44	37	31	43	36	31	42	36	31	41	35	31	29
10	54	41	34	29	53	41	33	28	40	33	28	39	33	28	38	32	28	26

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	9056	9056	9056
5°	9026	9030	9220
10°	8843	8920	8984
15°	8914	8865	8915
20°	8763	8763	8856
25°	8493	8679	8774
30°	8377	8524	8751
35°	8180	8393	8582
40°	7861	8240	8276
45°	7623	7895	7906
50°	7373	7706	7559
55°	7025	7162	7111
60°	6569	6635	6515
65°	5857	6007	5816
70°	5026	5043	4902
75°	3980	3972	3818
80°	2667	2593	2492
85°	1448	1436	1343



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	316.6	3.7
10°-20°	897.2	10.6
20°-30°	1344.2	15.8
30°-40°	1593.1	18.8
40°-50°	1596.1	18.8
50°-60°	1354.8	16.0
60°-70°	913.4	10.8
70°-80°	401.4	4.7
80°-90°	65.2	0.8
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°	2558.0	30.2
0°-40°	4151.1	48.9
0°-60°	7102.0	83.7
0°-90°	8482.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8482.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3365	3365	3365	3365	3365	
5°	3342	3334	3343	3333	3413	315
15°	3200	3162	3182	3199	3200	891
25°	2860	2876	2923	2961	2955	1322
35°	2490	2497	2555	2614	2612	1546
45°	2003	2041	2074	2128	2078	1550
55°	1497	1487	1526	1516	1516	1332
65°	920	908	943	907	913	915
75°	383	375	382	355	367	410
85°	47	46	46	45	44	68
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3365.4	3365.4	3365.4	3365.4	3365.4
2.5°	3394.6	3368.9	3345.0	3372.8	3389.8
5°	3341.5	3333.7	3342.8	3332.9	3413.2
7.5°	3272.9	3302.9	3320.3	3309.4	3314.2
10°	3236.4	3226.0	3264.6	3291.6	3287.7
12.5°	3197.3	3212.9	3215.1	3244.2	3246.8
15°	3199.5	3162.5	3182.1	3198.6	3199.9
17.5°	3075.2	3115.2	3128.6	3166.4	3119.5
20°	3060.0	3030.9	3060.0	3098.6	3092.6
22.5°	2966.5	2934.0	2996.5	3030.9	3028.7
25°	2860.5	2876.2	2923.1	2961.3	2955.2
27.5°	2767.5	2785.8	2852.7	2905.3	2871.4
30°	2695.8	2686.7	2743.2	2790.1	2816.2
32.5°	2567.6	2600.7	2666.7	2713.2	2688.4
35°	2489.9	2497.3	2555.0	2614.1	2612.4
37.5°	2353.9	2388.2	2469.4	2486.0	2470.7
40°	2237.8	2272.2	2345.6	2363.4	2356.0
42.5°	2152.2	2158.3	2221.3	2241.7	2209.2
45°	2003.2	2040.6	2074.5	2127.9	2077.5
47.5°	1876.3	1893.7	1966.7	1981.0	1954.5
50°	1761.2	1767.2	1840.7	1822.9	1805.5
52.5°	1616.5	1642.1	1683.4	1679.9	1659.5
55°	1497.4	1487.4	1526.5	1516.1	1515.6
57.5°	1354.4	1371.8	1404.0	1387.5	1361.0
60°	1220.6	1221.0	1232.8	1214.1	1210.6
62.5°	1071.6	1076.8	1079.4	1056.3	1093.7
65°	919.9	907.7	943.4	907.3	913.4
67.5°	780.4	786.5	783.0	760.4	769.1
70°	638.8	646.6	640.9	615.3	623.1
72.5°	509.3	499.7	505.8	473.6	488.4
75°	382.8	375.0	382.0	355.0	367.2
77.5°	260.7	266.8	262.5	248.1	256.4
80°	172.1	167.3	167.3	159.0	160.8
82.5°	100.4	95.6	94.3	91.7	95.6
85°	46.9	45.6	46.5	45.2	43.5
87.5°	16.9	17.4	17.4	16.5	15.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)