

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: P546111

Luminaire Tested: **FMR-12-4-LD4-2HI-35-UNV-81-84-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: P546111
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-LD4-2HI-35-UNV-81-84-EDD
Description: 1X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

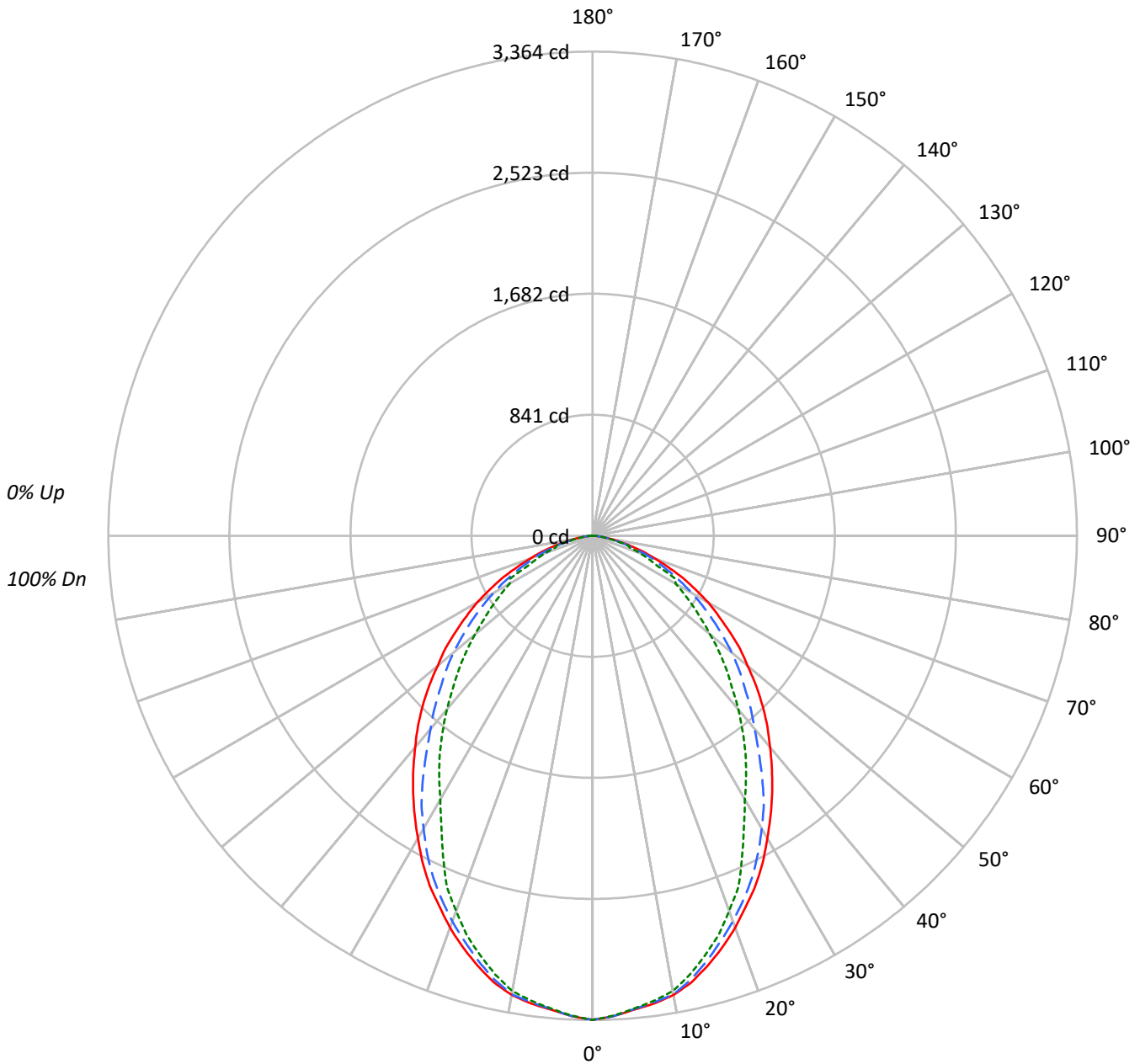
Lumens per Lamp: N/A
Luminaire Lumens: 6603.0 lumens
Efficiency: N/A
Efficacy: 76.4 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 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									
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°	9051	9051	9051
5°	8928	8918	8907
10°	8851	8840	8776
15°	8612	8525	8406
20°	8296	8162	7939
25°	7955	7782	7297
30°	7539	7298	6573
35°	7140	6745	6080
40°	6734	6147	5532
45°	6348	5683	5002
50°	5876	5274	4460
55°	5436	4780	3995
60°	4980	4269	3578
65°	4382	3739	3169
70°	3610	3274	2692
75°	2871	2507	2627
80°	1928	1808	1688
85°	1201	1442	1680



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	313.1	4.7
10°-20°	859.3	13.0
20°-30°	1189.6	18.0
30°-40°	1268.4	19.2
40°-50°	1157.2	17.5
50°-60°	906.6	13.7
60°-70°	590.9	8.9
70°-80°	261.8	4.0
80°-90°	56.2	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°	2361.9	35.8
0°-40°	3630.4	55.0
0°-60°	5694.2	86.2
0°-90°	6603.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6603.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3364	3364	3364	3364	3364	
5°	3305	3301	3301	3297	3297	314
15°	3091	3091	3060	3029	3017	869
25°	2679	2664	2621	2528	2458	1230
35°	2174	2158	2053	1898	1851	1359
45°	1668	1633	1493	1369	1314	1285
55°	1159	1124	1019	898	852	1039
65°	688	649	587	599	498	678
75°	276	257	241	229	253	296
85°	39	43	47	50	54	54
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3363.5	3363.5	3363.5	3363.5	3363.5
2.5°	3340.1	3340.1	3340.1	3336.3	3336.3
5°	3305.2	3301.3	3301.3	3297.4	3297.4
7.5°	3277.9	3274.0	3270.2	3266.3	3258.5
10°	3239.1	3239.1	3235.2	3215.7	3211.8
12.5°	3176.8	3172.9	3157.4	3130.2	3122.4
15°	3091.3	3091.3	3060.2	3029.1	3017.4
17.5°	2998.0	2994.1	2955.2	2924.1	2908.5
20°	2896.9	2889.1	2850.2	2799.7	2772.4
22.5°	2784.1	2784.1	2737.4	2671.3	2644.1
25°	2679.1	2663.6	2620.8	2527.5	2457.5
27.5°	2558.6	2535.2	2488.6	2356.4	2274.7
30°	2426.4	2414.7	2348.6	2177.5	2115.3
32.5°	2301.9	2282.5	2212.5	2033.6	1983.1
35°	2173.6	2158.1	2053.1	1897.5	1850.9
37.5°	2045.3	2025.9	1893.7	1769.2	1710.9
40°	1917.0	1893.7	1749.8	1637.0	1574.8
42.5°	1796.4	1765.3	1625.4	1504.8	1434.8
45°	1668.1	1633.1	1493.2	1368.7	1314.3
47.5°	1539.8	1508.7	1380.4	1252.1	1189.9
50°	1403.7	1376.5	1259.8	1131.5	1065.4
52.5°	1291.0	1248.2	1135.4	1007.1	952.7
55°	1158.7	1123.8	1018.8	898.2	851.6
57.5°	1038.2	1003.2	906.0	793.2	754.4
60°	925.4	874.9	793.2	696.0	664.9
62.5°	801.0	762.1	692.1	610.5	649.4
65°	688.2	649.4	587.2	598.8	497.7
67.5°	563.8	544.4	489.9	435.5	419.9
70°	458.8	435.5	416.1	357.7	342.2
72.5°	365.5	342.2	315.0	283.9	272.2
75°	276.1	256.6	241.1	229.4	252.7
77.5°	190.5	182.8	171.1	159.4	155.5
80°	124.4	120.5	116.7	112.8	108.9
82.5°	73.9	73.9	73.9	73.9	73.9
85°	38.9	42.8	46.7	50.5	54.4
87.5°	23.3	23.3	27.2	31.1	35.0
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)