

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: P547107

Luminaire Tested: **FMR-24-4-LD4-3LO-40-UNV-81-88-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: P547107
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-81-88-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

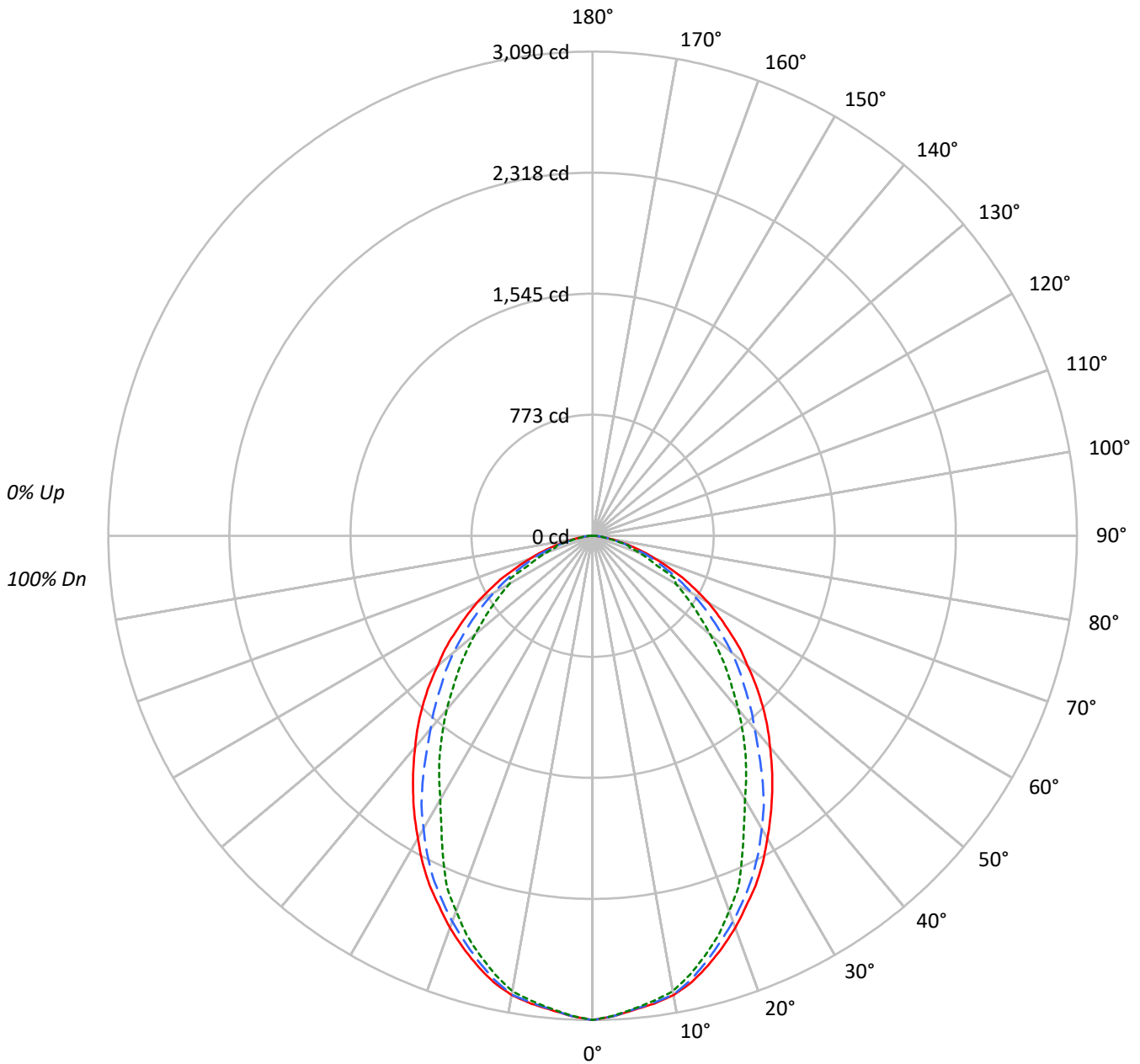
Lumens per Lamp: N/A
Luminaire Lumens: 6067.0 lumens
Efficiency: N/A
Efficacy: 86.4 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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									
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°	4158	4158	4158
5°	4102	4097	4092
10°	4066	4061	4032
15°	3957	3917	3862
20°	3811	3750	3647
25°	3654	3575	3352
30°	3464	3353	3020
35°	3280	3098	2793
40°	3094	2824	2542
45°	2916	2610	2298
50°	2700	2423	2049
55°	2498	2196	1835
60°	2288	1961	1644
65°	2013	1718	1456
70°	1659	1504	1237
75°	1319	1151	1207
80°	886	831	775
85°	551	662	772



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	287.7	4.7
10°-20°	789.5	13.0
20°-30°	1093.0	18.0
30°-40°	1165.5	19.2
40°-50°	1063.3	17.5
50°-60°	833.0	13.7
60°-70°	542.9	8.9
70°-80°	240.5	4.0
80°-90°	51.6	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°	2170.2	35.8
0°-40°	3335.7	55.0
0°-60°	5231.9	86.2
0°-90°	6067.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6067.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3090	3090	3090	3090	3090	
5°	3037	3033	3033	3030	3030	288
15°	2840	2840	2812	2783	2772	799
25°	2462	2447	2408	2322	2258	1130
35°	1997	1983	1886	1744	1701	1249
45°	1533	1501	1372	1258	1208	1181
55°	1065	1032	936	825	782	955
65°	632	597	540	550	457	623
75°	254	236	222	211	232	272
85°	36	39	43	46	50	50
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3090.4	3090.4	3090.4	3090.4	3090.4
2.5°	3069.0	3069.0	3069.0	3065.4	3065.4
5°	3036.9	3033.3	3033.3	3029.7	3029.7
7.5°	3011.8	3008.3	3004.7	3001.1	2994.0
10°	2976.1	2976.1	2972.5	2954.7	2951.1
12.5°	2919.0	2915.4	2901.1	2876.1	2868.9
15°	2840.4	2840.4	2811.8	2783.2	2772.5
17.5°	2754.6	2751.0	2715.3	2686.7	2672.4
20°	2661.7	2654.6	2618.8	2572.4	2547.4
22.5°	2558.1	2558.1	2515.2	2454.5	2429.5
25°	2461.6	2447.3	2408.0	2322.3	2258.0
27.5°	2350.9	2329.4	2286.6	2165.1	2090.1
30°	2229.4	2218.7	2158.0	2000.8	1943.6
32.5°	2115.1	2097.2	2032.9	1868.6	1822.1
35°	1997.2	1982.9	1886.4	1743.5	1700.6
37.5°	1879.3	1861.4	1739.9	1625.6	1572.0
40°	1761.4	1739.9	1607.7	1504.1	1447.0
42.5°	1650.6	1622.0	1493.4	1382.7	1318.4
45°	1532.7	1500.6	1371.9	1257.6	1207.6
47.5°	1414.8	1386.2	1268.3	1150.4	1093.3
50°	1289.8	1264.8	1157.6	1039.7	978.9
52.5°	1186.2	1146.9	1043.2	925.3	875.3
55°	1064.7	1032.5	936.1	825.3	782.4
57.5°	953.9	921.8	832.5	728.8	693.1
60°	850.3	803.9	728.8	639.5	610.9
62.5°	736.0	700.3	636.0	560.9	596.7
65°	632.4	596.7	539.5	550.2	457.3
67.5°	518.1	500.2	450.2	400.2	385.9
70°	421.6	400.2	382.3	328.7	314.4
72.5°	335.8	314.4	289.4	260.8	250.1
75°	253.7	235.8	221.5	210.8	232.2
77.5°	175.1	167.9	157.2	146.5	142.9
80°	114.3	110.8	107.2	103.6	100.0
82.5°	67.9	67.9	67.9	67.9	67.9
85°	35.7	39.3	42.9	46.4	50.0
87.5°	21.4	21.4	25.0	28.6	32.2
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)