

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: P546145

Luminaire Tested: **FMR-12-4-LD4-2HI-40-UNV-81-86-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: P546145
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-40-UNV-81-86-EDD
Description: 1X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

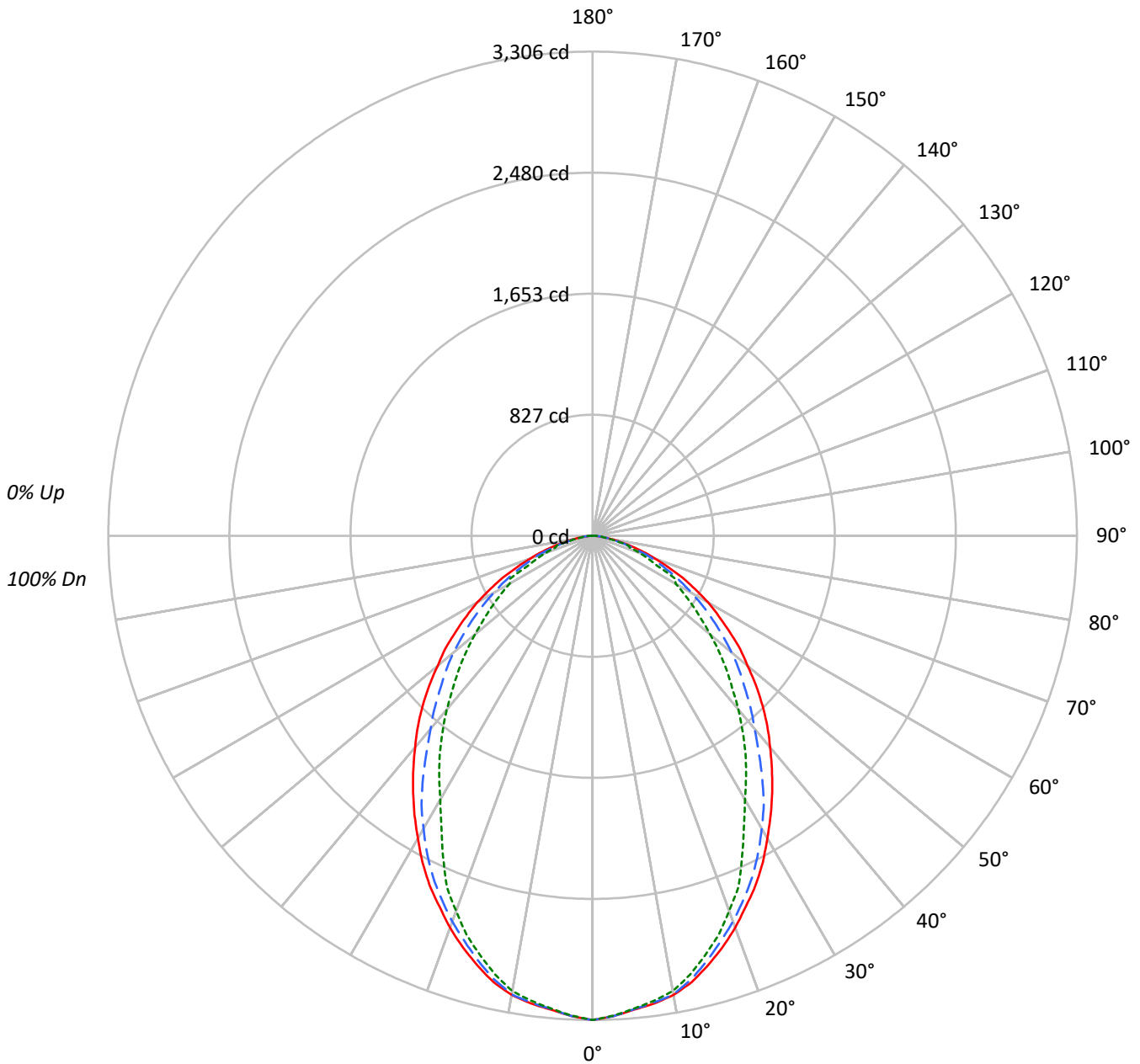
Lumens per Lamp: N/A
Luminaire Lumens: 6490.0 lumens
Efficiency: N/A
Efficacy: 75.1 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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°	8896	8896	8896
5°	8775	8765	8755
10°	8699	8689	8626
15°	8465	8379	8262
20°	8154	8022	7804
25°	7819	7648	7172
30°	7410	7173	6460
35°	7018	6629	5976
40°	6619	6041	5437
45°	6240	5585	4916
50°	5776	5184	4384
55°	5343	4698	3927
60°	4895	4196	3517
65°	4308	3675	3115
70°	3548	3217	2646
75°	2822	2464	2583
80°	1895	1777	1658
85°	1179	1417	1652



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	307.7	4.7
10°-20°	844.6	13.0
20°-30°	1169.2	18.0
30°-40°	1246.7	19.2
40°-50°	1137.4	17.5
50°-60°	891.1	13.7
60°-70°	580.8	8.9
70°-80°	257.3	4.0
80°-90°	55.2	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°	2321.5	35.8
0°-40°	3568.3	55.0
0°-60°	5596.7	86.2
0°-90°	6490.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6490.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3306	3306	3306	3306	3306	
5°	3249	3245	3245	3241	3241	308
15°	3038	3038	3008	2977	2966	854
25°	2633	2618	2576	2484	2415	1209
35°	2136	2121	2018	1865	1819	1336
45°	1640	1605	1468	1345	1292	1263
55°	1139	1104	1001	883	837	1022
65°	676	638	577	589	489	667
75°	271	252	237	226	248	291
85°	38	42	46	50	54	53
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3305.9	3305.9	3305.9	3305.9	3305.9
2.5°	3283.0	3283.0	3283.0	3279.2	3279.2
5°	3248.6	3244.8	3244.8	3240.9	3240.9
7.5°	3221.8	3218.0	3214.2	3210.4	3202.7
10°	3183.6	3183.6	3179.8	3160.7	3156.9
12.5°	3122.5	3118.6	3103.4	3076.6	3069.0
15°	3038.4	3038.4	3007.8	2977.2	2965.8
17.5°	2946.7	2942.8	2904.6	2874.0	2858.8
20°	2847.3	2839.7	2801.4	2751.7	2725.0
22.5°	2736.5	2736.5	2690.6	2625.6	2598.9
25°	2633.3	2618.0	2575.9	2484.2	2415.4
27.5°	2514.8	2491.9	2446.0	2316.1	2235.8
30°	2384.8	2373.4	2308.4	2140.2	2079.1
32.5°	2262.5	2243.4	2174.6	1998.8	1949.2
35°	2136.4	2121.1	2017.9	1865.1	1819.2
37.5°	2010.3	1991.2	1861.3	1739.0	1681.6
40°	1884.2	1861.3	1719.8	1609.0	1547.9
42.5°	1765.7	1735.1	1597.5	1479.1	1410.3
45°	1639.6	1605.2	1467.6	1345.3	1291.8
47.5°	1513.5	1482.9	1356.8	1230.6	1169.5
50°	1379.7	1352.9	1238.3	1112.2	1047.2
52.5°	1268.9	1226.8	1116.0	989.9	936.4
55°	1138.9	1104.5	1001.3	882.9	837.0
57.5°	1020.4	986.0	890.5	779.7	741.4
60°	909.6	859.9	779.7	684.1	653.5
62.5°	787.3	749.1	680.3	600.0	638.3
65°	676.5	638.3	577.1	588.6	489.2
67.5°	554.2	535.1	481.6	428.0	412.8
70°	451.0	428.0	408.9	351.6	336.3
72.5°	359.3	336.3	309.6	279.0	267.5
75°	271.4	252.2	237.0	225.5	248.4
77.5°	187.3	179.6	168.2	156.7	152.9
80°	122.3	118.5	114.7	110.8	107.0
82.5°	72.6	72.6	72.6	72.6	72.6
85°	38.2	42.0	45.9	49.7	53.5
87.5°	22.9	22.9	26.8	30.6	34.4
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)