

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: P546121

Luminaire Tested: **FMR-12-4-LD4-2HI-35-UNV-82-86-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: P546121
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-82-86-EDD
Description: 1X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

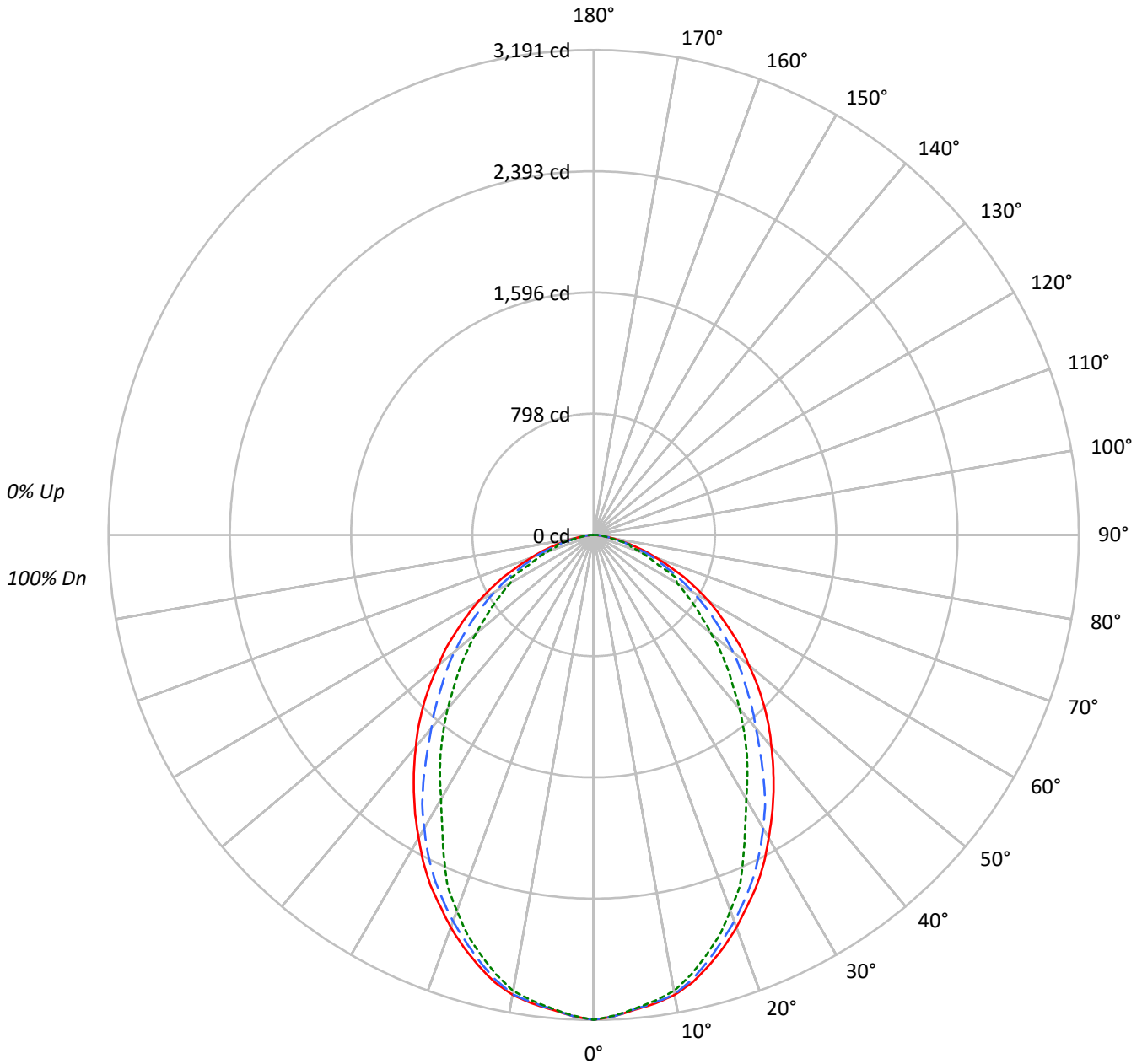
Lumens per Lamp: N/A
Luminaire Lumens: 6264.0 lumens
Efficiency: N/A
Efficacy: 72.5 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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

TEST NUMBER: P546121

CATALOG NUMBER: FMR-12-4-LD4-2HI-35-UNV-82-86-EDD

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°	8586	8586	8586
5°	8470	8460	8450
10°	8396	8386	8326
15°	8170	8088	7975
20°	7870	7743	7532
25°	7546	7382	6922
30°	7152	6923	6235
35°	6774	6398	5768
40°	6388	5831	5248
45°	6022	5391	4745
50°	5575	5004	4231
55°	5157	4534	3790
60°	4725	4050	3395
65°	4157	3547	3007
70°	3425	3105	2554
75°	2723	2378	2493
80°	1829	1715	1601
85°	1139	1368	1593



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	297.0	4.7
10°-20°	815.2	13.0
20°-30°	1128.5	18.0
30°-40°	1203.3	19.2
40°-50°	1097.8	17.5
50°-60°	860.0	13.7
60°-70°	560.5	8.9
70°-80°	248.3	4.0
80°-90°	53.3	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°	2240.7	35.8
0°-40°	3444.0	55.0
0°-60°	5401.8	86.2
0°-90°	6264.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6264.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3191	3191	3191	3191	3191	
5°	3136	3132	3132	3128	3128	298
15°	2933	2933	2903	2874	2862	824
25°	2542	2527	2486	2398	2331	1167
35°	2062	2047	1948	1800	1756	1289
45°	1582	1549	1416	1298	1247	1219
55°	1099	1066	966	852	808	986
65°	653	616	557	568	472	643
75°	262	244	229	218	240	281
85°	37	41	44	48	52	51
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3190.8	3190.8	3190.8	3190.8	3190.8
2.5°	3168.7	3168.7	3168.7	3165.0	3165.0
5°	3135.5	3131.8	3131.8	3128.1	3128.1
7.5°	3109.6	3106.0	3102.3	3098.6	3091.2
10°	3072.8	3072.8	3069.1	3050.6	3046.9
12.5°	3013.7	3010.0	2995.3	2969.5	2962.1
15°	2932.6	2932.6	2903.1	2873.6	2862.5
17.5°	2844.1	2840.4	2803.5	2774.0	2759.2
20°	2748.1	2740.8	2703.9	2655.9	2630.1
22.5°	2641.2	2641.2	2596.9	2534.2	2508.4
25°	2541.6	2526.8	2486.2	2397.7	2331.3
27.5°	2427.2	2405.1	2360.8	2235.4	2157.9
30°	2301.8	2290.7	2228.0	2065.7	2006.7
32.5°	2183.8	2165.3	2098.9	1929.2	1881.3
35°	2062.0	2047.3	1947.7	1800.1	1755.9
37.5°	1940.3	1921.9	1796.4	1678.4	1623.1
40°	1818.6	1796.4	1660.0	1553.0	1494.0
42.5°	1704.2	1674.7	1541.9	1427.6	1361.2
45°	1582.5	1549.3	1416.5	1298.5	1246.8
47.5°	1460.8	1431.2	1309.5	1187.8	1128.8
50°	1331.7	1305.8	1195.2	1073.4	1010.7
52.5°	1224.7	1184.1	1077.1	955.4	903.8
55°	1099.3	1066.1	966.5	852.1	807.8
57.5°	984.9	951.7	859.5	752.5	715.6
60°	877.9	830.0	752.5	660.3	630.8
62.5°	759.9	723.0	656.6	579.1	616.0
65°	652.9	616.0	557.0	568.1	472.2
67.5°	534.9	516.4	464.8	413.1	398.4
70°	435.3	413.1	394.7	339.4	324.6
72.5°	346.7	324.6	298.8	269.3	258.2
75°	261.9	243.5	228.7	217.6	239.8
77.5°	180.8	173.4	162.3	151.2	147.6
80°	118.0	114.4	110.7	107.0	103.3
82.5°	70.1	70.1	70.1	70.1	70.1
85°	36.9	40.6	44.3	48.0	51.6
87.5°	22.1	22.1	25.8	29.5	33.2
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)