

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: P546181

Luminaire Tested: **FMR-12-4-LD4-2HI-50-UNV-81-96-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: P546181
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-50-UNV-81-96-EDD
Description: 1X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

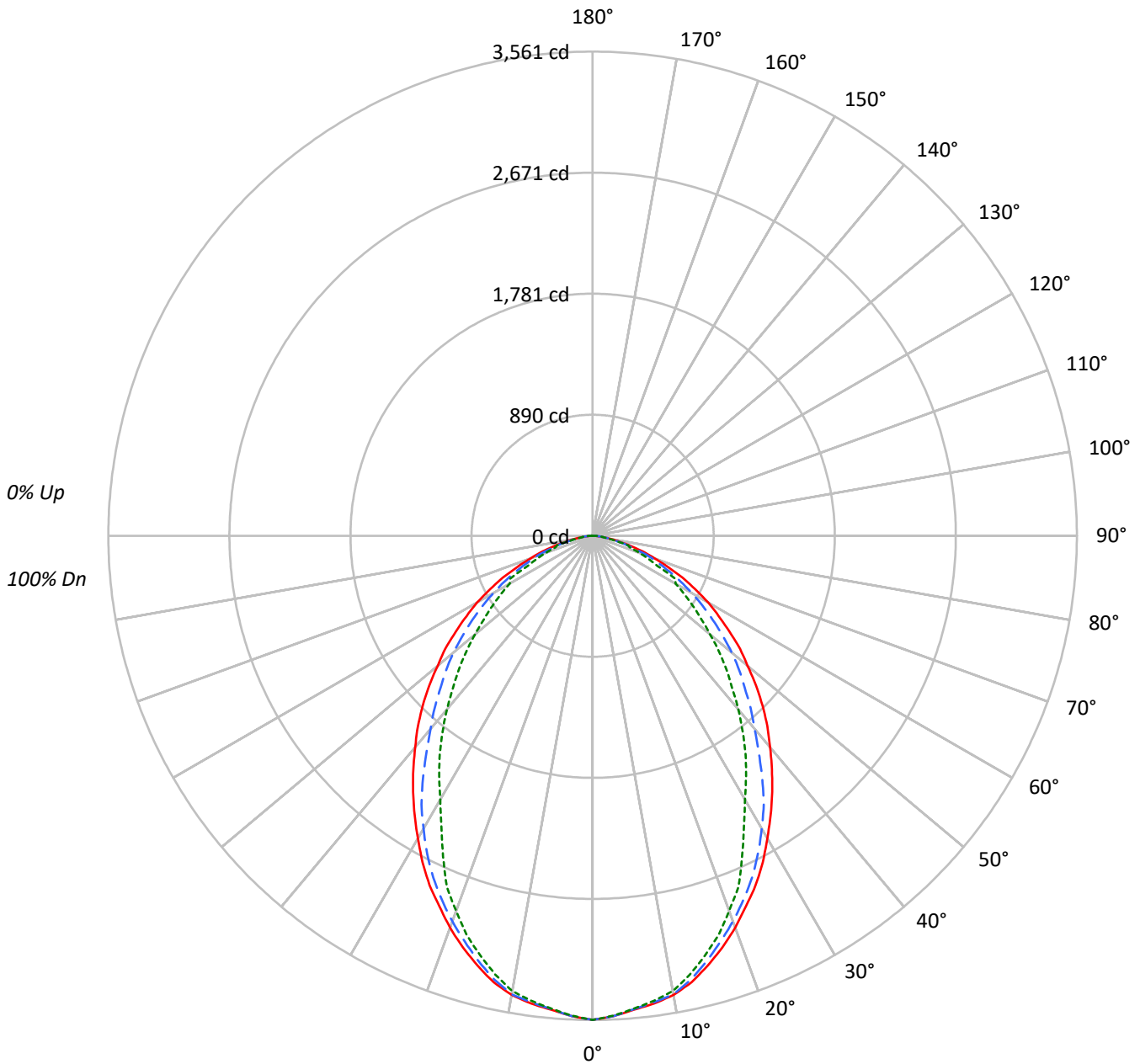
Lumens per Lamp: N/A
Luminaire Lumens: 6990.0 lumens
Efficiency: N/A
Efficacy: 80.9 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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°	9581	9581	9581
5°	9451	9440	9429
10°	9369	9358	9291
15°	9117	9025	8899
20°	8782	8641	8405
25°	8421	8238	7724
30°	7981	7726	6958
35°	7559	7140	6437
40°	7129	6507	5856
45°	6720	6016	5295
50°	6221	5583	4722
55°	5755	5060	4229
60°	5273	4519	3788
65°	4639	3958	3355
70°	3821	3465	2850
75°	3039	2653	2782
80°	2041	1914	1787
85°	1272	1525	1778



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	331.4	4.7
10°-20°	909.6	13.0
20°-30°	1259.3	18.0
30°-40°	1342.8	19.2
40°-50°	1225.0	17.5
50°-60°	959.7	13.7
60°-70°	625.5	8.9
70°-80°	277.1	4.0
80°-90°	59.5	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°	2500.4	35.8
0°-40°	3843.2	55.0
0°-60°	6027.9	86.2
0°-90°	6990.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6990.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3561	3561	3561	3561	3561	
5°	3499	3495	3495	3491	3491	332
15°	3272	3272	3240	3207	3194	920
25°	2836	2820	2774	2676	2602	1302
35°	2301	2285	2173	2009	1959	1439
45°	1766	1729	1581	1449	1391	1360
55°	1227	1190	1078	951	902	1100
65°	729	687	622	634	527	718
75°	292	272	255	243	268	313
85°	41	45	49	54	58	57
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3560.6	3560.6	3560.6	3560.6	3560.6
2.5°	3535.9	3535.9	3535.9	3531.8	3531.8
5°	3498.9	3494.8	3494.8	3490.6	3490.6
7.5°	3470.1	3465.9	3461.8	3457.7	3449.5
10°	3428.9	3428.9	3424.8	3404.2	3400.1
12.5°	3363.0	3358.9	3342.4	3313.6	3305.4
15°	3272.5	3272.5	3239.5	3206.6	3194.3
17.5°	3173.7	3169.6	3128.4	3095.5	3079.0
20°	3066.7	3058.4	3017.3	2963.7	2934.9
22.5°	2947.3	2947.3	2897.9	2827.9	2799.1
25°	2836.1	2819.7	2774.4	2675.6	2601.5
27.5°	2708.5	2683.8	2634.4	2494.5	2408.0
30°	2568.6	2556.2	2486.3	2305.1	2239.3
32.5°	2436.9	2416.3	2342.2	2152.8	2099.3
35°	2301.0	2284.6	2173.4	2008.8	1959.4
37.5°	2165.2	2144.6	2004.6	1872.9	1811.2
40°	2029.3	2004.6	1852.3	1733.0	1667.1
42.5°	1901.7	1868.8	1720.6	1593.0	1518.9
45°	1765.9	1728.9	1580.7	1448.9	1391.3
47.5°	1630.1	1597.1	1461.3	1325.5	1259.6
50°	1486.0	1457.2	1333.7	1197.8	1127.9
52.5°	1366.6	1321.3	1202.0	1066.1	1008.5
55°	1226.7	1189.6	1078.5	950.9	901.5
57.5°	1099.1	1062.0	959.1	839.7	798.6
60°	979.7	926.2	839.7	736.8	703.9
62.5°	848.0	806.8	732.7	646.3	687.4
65°	728.6	687.4	621.6	633.9	526.9
67.5°	596.9	576.3	518.7	461.0	444.6
70°	485.7	461.0	440.4	378.7	362.2
72.5°	386.9	362.2	333.4	300.5	288.1
75°	292.3	271.7	255.2	242.9	267.6
77.5°	201.7	193.5	181.1	168.8	164.7
80°	131.7	127.6	123.5	119.4	115.3
82.5°	78.2	78.2	78.2	78.2	78.2
85°	41.2	45.3	49.4	53.5	57.6
87.5°	24.7	24.7	28.8	32.9	37.0
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)