

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: P546117

Luminaire Tested: **FMR-12-4-LD4-2HI-35-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: P546117
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-81-96-EDD
Description: 1X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

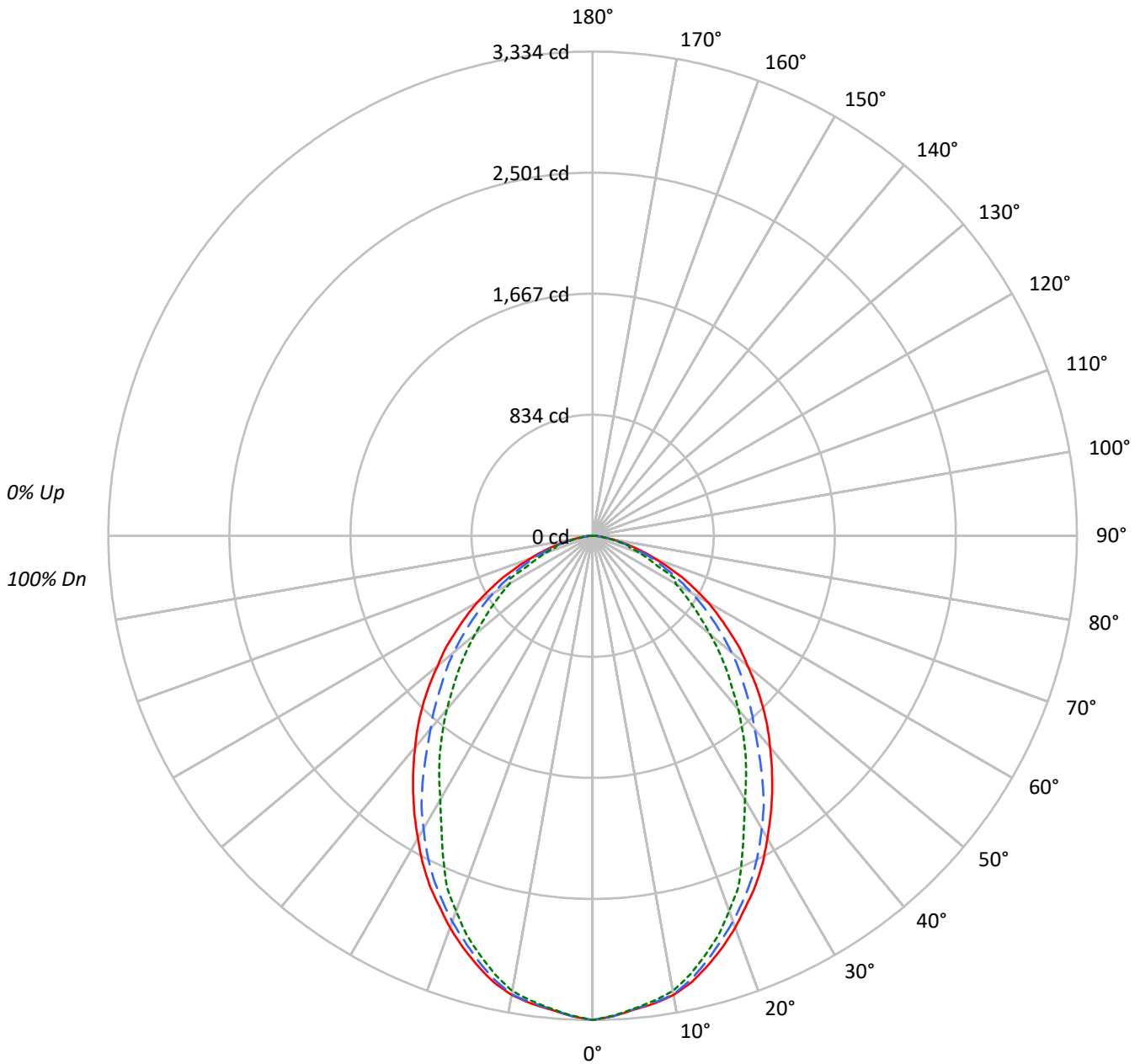
Lumens per Lamp: N/A
Luminaire Lumens: 6545.0 lumens
Efficiency: N/A
Efficacy: 75.8 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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°	8971	8971	8971
5°	8850	8839	8829
10°	8773	8762	8699
15°	8536	8450	8332
20°	8223	8090	7870
25°	7885	7713	7233
30°	7473	7234	6515
35°	7078	6685	6027
40°	6675	6093	5484
45°	6293	5632	4958
50°	5825	5228	4421
55°	5389	4738	3960
60°	4937	4232	3547
65°	4344	3706	3141
70°	3578	3245	2669
75°	2846	2485	2604
80°	1911	1791	1672
85°	1189	1430	1667



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	310.3	4.7
10°-20°	851.7	13.0
20°-30°	1179.1	18.0
30°-40°	1257.3	19.2
40°-50°	1147.0	17.5
50°-60°	898.6	13.7
60°-70°	585.7	8.9
70°-80°	259.5	4.0
80°-90°	55.7	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°	2341.2	35.8
0°-40°	3598.5	55.0
0°-60°	5644.2	86.2
0°-90°	6545.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6545.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3334	3334	3334	3334	3334	
5°	3276	3272	3272	3268	3268	311
15°	3064	3064	3033	3002	2991	861
25°	2656	2640	2598	2505	2436	1219
35°	2154	2139	2035	1881	1835	1347
45°	1654	1619	1480	1357	1303	1274
55°	1149	1114	1010	890	844	1030
65°	682	644	582	594	493	672
75°	274	254	239	227	250	293
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°	3333.9	3333.9	3333.9	3333.9	3333.9
2.5°	3310.8	3310.8	3310.8	3307.0	3307.0
5°	3276.1	3272.3	3272.3	3268.4	3268.4
7.5°	3249.1	3245.3	3241.4	3237.6	3229.9
10°	3210.6	3210.6	3206.7	3187.5	3183.6
12.5°	3148.9	3145.1	3129.7	3102.7	3095.0
15°	3064.1	3064.1	3033.3	3002.5	2990.9
17.5°	2971.6	2967.8	2929.2	2898.4	2883.0
20°	2871.4	2863.7	2825.2	2775.1	2748.1
22.5°	2759.7	2759.7	2713.4	2647.9	2620.9
25°	2655.6	2640.2	2597.8	2505.3	2435.9
27.5°	2536.1	2513.0	2466.7	2335.7	2254.7
30°	2405.1	2393.5	2328.0	2158.4	2096.7
32.5°	2281.7	2262.5	2193.1	2015.8	1965.7
35°	2154.5	2139.1	2035.0	1880.9	1834.6
37.5°	2027.3	2008.1	1877.0	1753.7	1695.9
40°	1900.2	1877.0	1734.4	1622.6	1561.0
42.5°	1780.7	1749.8	1611.1	1491.6	1422.2
45°	1653.5	1618.8	1480.0	1356.7	1302.7
47.5°	1526.3	1495.5	1368.3	1241.1	1179.4
50°	1391.4	1364.4	1248.8	1121.6	1056.1
52.5°	1279.6	1237.2	1125.4	998.3	944.3
55°	1148.6	1113.9	1009.8	890.3	844.1
57.5°	1029.1	994.4	898.0	786.3	747.7
60°	917.3	867.2	786.3	689.9	659.1
62.5°	794.0	755.4	686.1	605.1	643.7
65°	682.2	643.7	582.0	593.6	493.3
67.5°	558.9	539.6	485.6	431.7	416.3
70°	454.8	431.7	412.4	354.6	339.2
72.5°	362.3	339.2	312.2	281.4	269.8
75°	273.7	254.4	239.0	227.4	250.5
77.5°	188.9	181.2	169.6	158.0	154.2
80°	123.3	119.5	115.6	111.8	107.9
82.5°	73.2	73.2	73.2	73.2	73.2
85°	38.5	42.4	46.3	50.1	54.0
87.5°	23.1	23.1	27.0	30.8	34.7
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)