

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: P546314

Luminaire Tested: **FMR-12-4-LD4-2STD-35-UNV-82-87-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: P546314
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-LD4-2STD-35-UNV-82-87-EDD
Description: 1X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

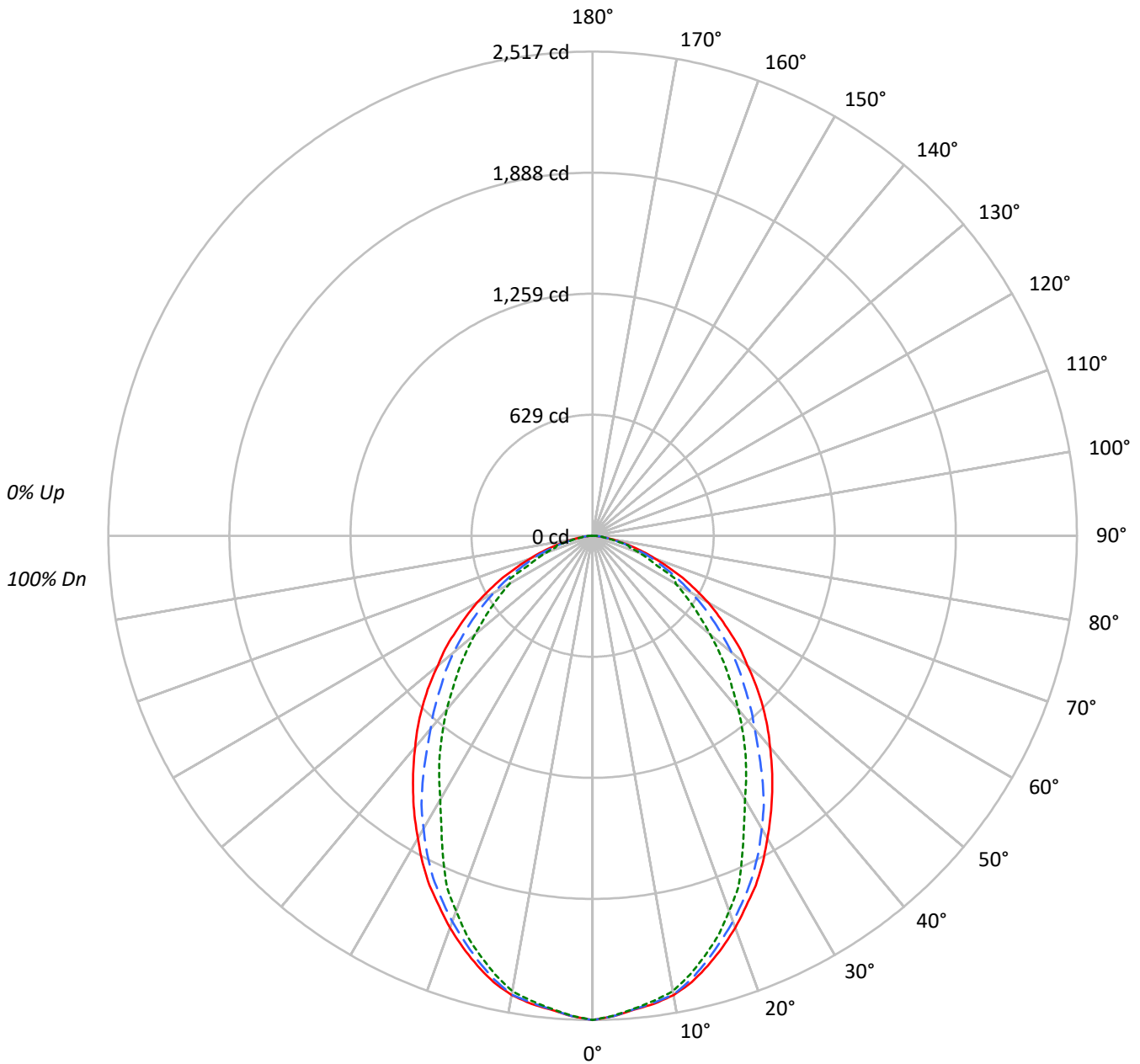
Lumens per Lamp: N/A
Luminaire Lumens: 4942.0 lumens
Efficiency: N/A
Efficacy: 74.2 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 66.6
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°	6774	6774	6774
5°	6682	6674	6666
10°	6624	6616	6569
15°	6446	6381	6292
20°	6209	6109	5942
25°	5954	5824	5461
30°	5643	5462	4919
35°	5344	5048	4551
40°	5040	4600	4141
45°	4751	4253	3744
50°	4398	3947	3338
55°	4069	3577	2990
60°	3728	3195	2679
65°	3280	2798	2372
70°	2702	2450	2015
75°	2148	1876	1967
80°	1443	1353	1263
85°	898	1078	1257



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	234.3	4.7
10°-20°	643.1	13.0
20°-30°	890.3	18.0
30°-40°	949.4	19.2
40°-50°	866.1	17.5
50°-60°	678.5	13.7
60°-70°	442.2	8.9
70°-80°	195.9	4.0
80°-90°	42.1	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°	1767.8	35.8
0°-40°	2717.2	55.0
0°-60°	4261.8	86.2
0°-90°	4942.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4942.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2517	2517	2517	2517	2517	
5°	2474	2471	2471	2468	2468	235
15°	2314	2314	2290	2267	2258	650
25°	2005	1994	1962	1892	1839	921
35°	1627	1615	1537	1420	1385	1017
45°	1248	1222	1118	1024	984	962
55°	867	841	762	672	637	778
65°	515	486	440	448	372	508
75°	207	192	180	172	189	221
85°	29	32	35	38	41	40
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2517.4	2517.4	2517.4	2517.4	2517.4
2.5°	2499.9	2499.9	2499.9	2497.0	2497.0
5°	2473.7	2470.8	2470.8	2467.9	2467.9
7.5°	2453.4	2450.5	2447.5	2444.6	2438.8
10°	2424.3	2424.3	2421.3	2406.8	2403.9
12.5°	2377.7	2374.8	2363.1	2342.8	2337.0
15°	2313.7	2313.7	2290.4	2267.1	2258.4
17.5°	2243.8	2240.9	2211.8	2188.5	2176.9
20°	2168.2	2162.3	2133.2	2095.4	2075.0
22.5°	2083.8	2083.8	2048.8	1999.4	1979.0
25°	2005.2	1993.5	1961.5	1891.7	1839.3
27.5°	1915.0	1897.5	1862.6	1763.6	1702.5
30°	1816.0	1807.3	1757.8	1629.8	1583.2
32.5°	1722.9	1708.3	1655.9	1522.1	1484.2
35°	1626.8	1615.2	1536.6	1420.2	1385.3
37.5°	1530.8	1516.3	1417.3	1324.2	1280.5
40°	1434.8	1417.3	1309.6	1225.2	1178.7
42.5°	1344.5	1321.3	1216.5	1126.3	1073.9
45°	1248.5	1222.3	1117.5	1024.4	983.7
47.5°	1152.5	1129.2	1033.1	937.1	890.5
50°	1050.6	1030.2	942.9	846.9	797.4
52.5°	966.2	934.2	849.8	753.8	713.0
55°	867.3	841.1	762.5	672.3	637.4
57.5°	777.0	750.9	678.1	593.7	564.6
60°	692.6	654.8	593.7	520.9	497.7
62.5°	599.5	570.4	518.0	456.9	486.0
65°	515.1	486.0	439.5	448.2	372.5
67.5°	422.0	407.4	366.7	326.0	314.3
70°	343.4	326.0	311.4	267.7	256.1
72.5°	273.6	256.1	235.7	212.5	203.7
75°	206.6	192.1	180.4	171.7	189.2
77.5°	142.6	136.8	128.1	119.3	116.4
80°	93.1	90.2	87.3	84.4	81.5
82.5°	55.3	55.3	55.3	55.3	55.3
85°	29.1	32.0	34.9	37.8	40.7
87.5°	17.5	17.5	20.4	23.3	26.2
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)