

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: P545848

Luminaire Tested: **FMR-12-4-LD4-1HI-40-UNV-80-85-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: P545848
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-LD4-1HI-40-UNV-80-85-EDD
Description: 1X4 FMR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

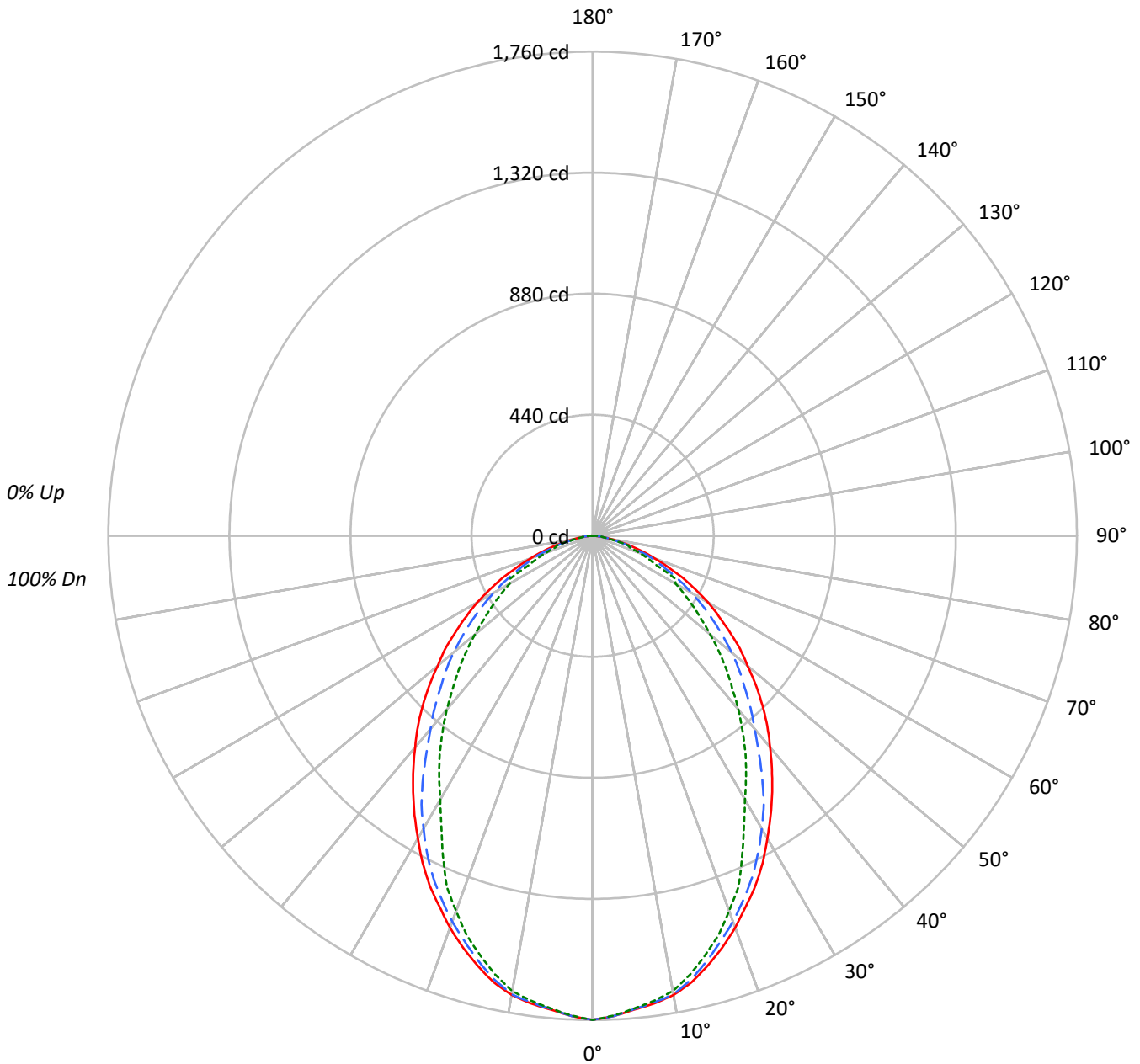
Lumens per Lamp: N/A
Luminaire Lumens: 3455.0 lumens
Efficiency: N/A
Efficacy: 80.0 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 43.2
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°	4736	4736	4736
5°	4672	4666	4660
10°	4631	4626	4592
15°	4506	4461	4399
20°	4341	4271	4154
25°	4162	4072	3818
30°	3945	3819	3439
35°	3736	3529	3182
40°	3524	3216	2895
45°	3322	2973	2617
50°	3075	2760	2334
55°	2845	2501	2091
60°	2606	2234	1872
65°	2293	1956	1658
70°	1889	1713	1408
75°	1502	1311	1375
80°	1009	945	883
85°	627	753	880



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	163.8	4.7
10°-20°	449.6	13.0
20°-30°	622.5	18.0
30°-40°	663.7	19.2
40°-50°	605.5	17.5
50°-60°	474.4	13.7
60°-70°	309.2	8.9
70°-80°	137.0	4.0
80°-90°	29.4	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°	1235.9	35.8
0°-40°	1899.6	55.0
0°-60°	2979.5	86.2
0°-90°	3455.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3455.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1760	1760	1760	1760	1760	
5°	1729	1727	1727	1725	1725	164
15°	1618	1618	1601	1585	1579	455
25°	1402	1394	1371	1322	1286	644
35°	1137	1129	1074	993	968	711
45°	873	854	781	716	688	672
55°	606	588	533	470	446	544
65°	360	340	307	313	260	355
75°	144	134	126	120	132	155
85°	20	22	24	26	28	28
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1759.9	1759.9	1759.9	1759.9	1759.9
2.5°	1747.7	1747.7	1747.7	1745.7	1745.7
5°	1729.4	1727.4	1727.4	1725.3	1725.3
7.5°	1715.2	1713.1	1711.1	1709.1	1705.0
10°	1694.8	1694.8	1692.8	1682.6	1680.6
12.5°	1662.3	1660.2	1652.1	1637.9	1633.8
15°	1617.5	1617.5	1601.2	1585.0	1578.9
17.5°	1568.7	1566.6	1546.3	1530.0	1521.9
20°	1515.8	1511.7	1491.4	1464.9	1450.7
22.5°	1456.8	1456.8	1432.4	1397.8	1383.5
25°	1401.8	1393.7	1371.3	1322.5	1285.9
27.5°	1338.8	1326.6	1302.1	1233.0	1190.2
30°	1269.6	1263.5	1228.9	1139.4	1106.8
32.5°	1204.5	1194.3	1157.7	1064.1	1037.6
35°	1137.3	1129.2	1074.3	992.9	968.5
37.5°	1070.2	1060.0	990.9	925.7	895.2
40°	1003.1	990.9	915.6	856.6	824.0
42.5°	940.0	923.7	850.5	787.4	750.8
45°	872.8	854.5	781.3	716.2	687.7
47.5°	805.7	789.4	722.3	655.1	622.6
50°	734.5	720.2	659.2	592.1	557.5
52.5°	675.5	653.1	594.1	527.0	498.5
55°	606.3	588.0	533.1	470.0	445.6
57.5°	543.2	524.9	474.1	415.1	394.7
60°	484.2	457.8	415.1	364.2	347.9
62.5°	419.1	398.8	362.2	319.4	339.8
65°	360.1	339.8	307.2	313.3	260.4
67.5°	295.0	284.8	256.4	227.9	219.7
70°	240.1	227.9	217.7	187.2	179.0
72.5°	191.3	179.0	164.8	148.5	142.4
75°	144.5	134.3	126.1	120.0	132.2
77.5°	99.7	95.6	89.5	83.4	81.4
80°	65.1	63.1	61.0	59.0	57.0
82.5°	38.7	38.7	38.7	38.7	38.7
85°	20.3	22.4	24.4	26.4	28.5
87.5°	12.2	12.2	14.2	16.3	18.3
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)