

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: P545900

Luminaire Tested: **FMR-12-4-LD4-1HI-50-UNV-82-94-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: P545900
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-50-UNV-82-94-EDD
Description: 1X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

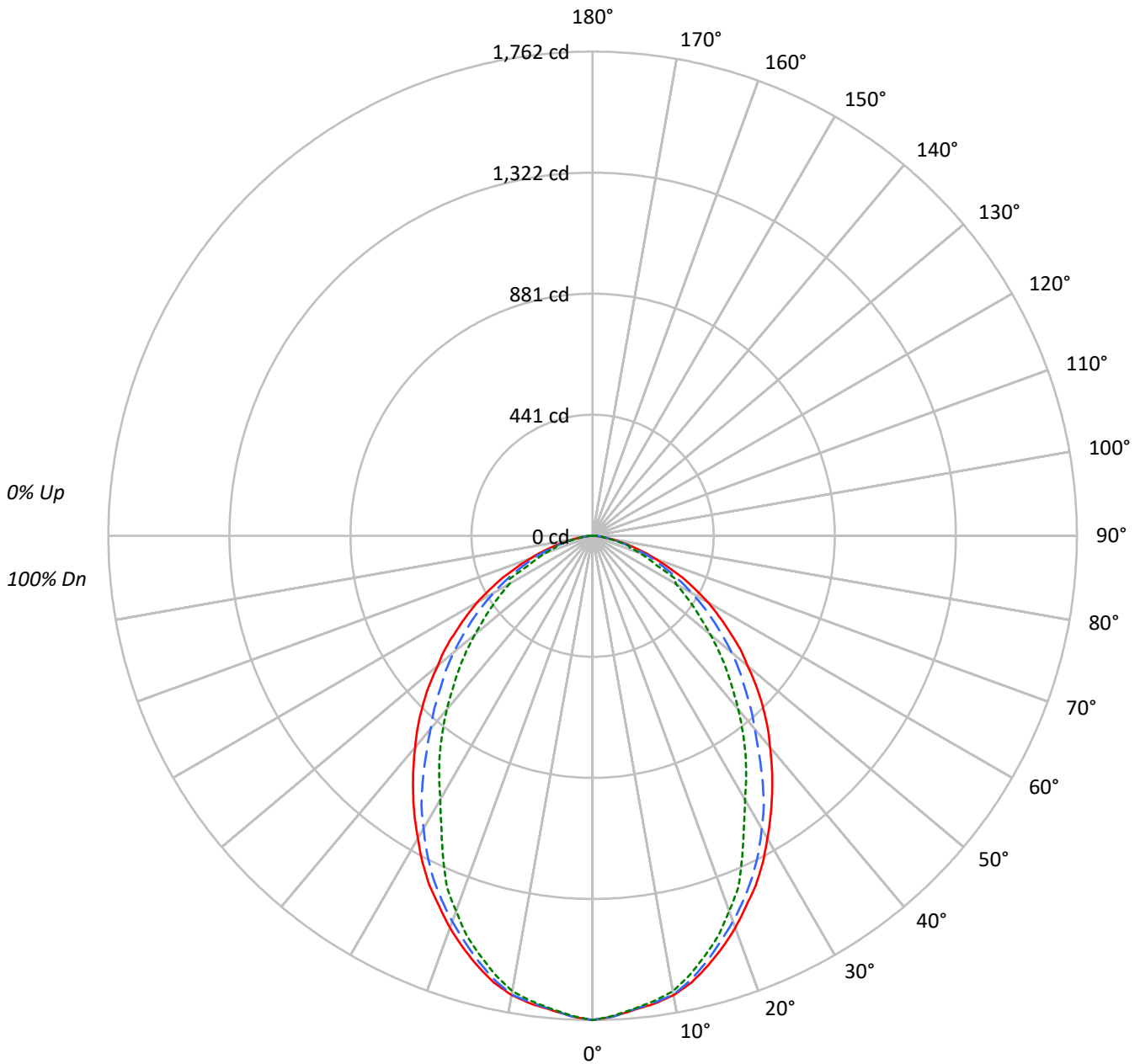
Lumens per Lamp: N/A
Luminaire Lumens: 3460.0 lumens
Efficiency: N/A
Efficacy: 80.1 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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°	4743	4743	4743
5°	4678	4673	4667
10°	4638	4632	4599
15°	4513	4467	4405
20°	4347	4277	4160
25°	4168	4078	3823
30°	3951	3824	3444
35°	3742	3534	3186
40°	3529	3221	2899
45°	3326	2978	2621
50°	3080	2764	2337
55°	2849	2504	2093
60°	2610	2237	1875
65°	2296	1959	1661
70°	1891	1715	1411
75°	1504	1313	1377
80°	1010	947	885
85°	630	756	880



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	164.1	4.7
10°-20°	450.3	13.0
20°-30°	623.3	18.0
30°-40°	664.7	19.2
40°-50°	606.4	17.5
50°-60°	475.1	13.7
60°-70°	309.6	8.9
70°-80°	137.2	4.0
80°-90°	29.5	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°	1237.7	35.8
0°-40°	1902.3	55.0
0°-60°	2983.8	86.2
0°-90°	3460.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3460.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1762	1762	1762	1762	1762	
5°	1732	1730	1730	1728	1728	164
15°	1620	1620	1604	1587	1581	455
25°	1404	1396	1373	1324	1288	645
35°	1139	1131	1076	994	970	712
45°	874	856	782	717	689	673
55°	607	589	534	471	446	545
65°	361	340	308	314	261	355
75°	145	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°	1762.5	1762.5	1762.5	1762.5	1762.5
2.5°	1750.3	1750.3	1750.3	1748.2	1748.2
5°	1731.9	1729.9	1729.9	1727.8	1727.8
7.5°	1717.7	1715.6	1713.6	1711.5	1707.5
10°	1697.3	1697.3	1695.2	1685.1	1683.0
12.5°	1664.7	1662.6	1654.5	1640.2	1636.1
15°	1619.8	1619.8	1603.5	1587.2	1581.1
17.5°	1570.9	1568.9	1548.5	1532.2	1524.1
20°	1518.0	1513.9	1493.5	1467.0	1452.8
22.5°	1458.9	1458.9	1434.4	1399.8	1385.5
25°	1403.9	1395.7	1373.3	1324.4	1287.7
27.5°	1340.7	1328.5	1304.0	1234.8	1192.0
30°	1271.4	1265.3	1230.7	1141.0	1108.4
32.5°	1206.2	1196.0	1159.4	1065.6	1039.1
35°	1139.0	1130.8	1075.8	994.3	969.9
37.5°	1071.7	1061.6	992.3	927.1	896.5
40°	1004.5	992.3	916.9	857.8	825.2
42.5°	941.3	925.0	851.7	788.5	751.9
45°	874.1	855.8	782.4	717.2	688.7
47.5°	806.9	790.6	723.3	656.1	623.5
50°	735.6	721.3	660.2	592.9	558.3
52.5°	676.5	654.1	595.0	527.7	499.2
55°	607.2	588.9	533.8	470.7	446.2
57.5°	544.0	525.7	474.7	415.7	395.3
60°	484.9	458.4	415.7	364.7	348.4
62.5°	419.7	399.4	362.7	319.9	340.3
65°	360.6	340.3	307.7	313.8	260.8
67.5°	295.4	285.3	256.7	228.2	220.1
70°	240.4	228.2	218.0	187.5	179.3
72.5°	191.5	179.3	165.0	148.7	142.6
75°	144.7	134.5	126.3	120.2	132.4
77.5°	99.8	95.8	89.7	83.5	81.5
80°	65.2	63.2	61.1	59.1	57.1
82.5°	38.7	38.7	38.7	38.7	38.7
85°	20.4	22.4	24.5	26.5	28.5
87.5°	12.2	12.2	14.3	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)