

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: P545872

Luminaire Tested: **FMR-12-4-LD4-1HI-40-UNV-93-85-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: P545872
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-93-85-EDD
Description: 1X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS 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

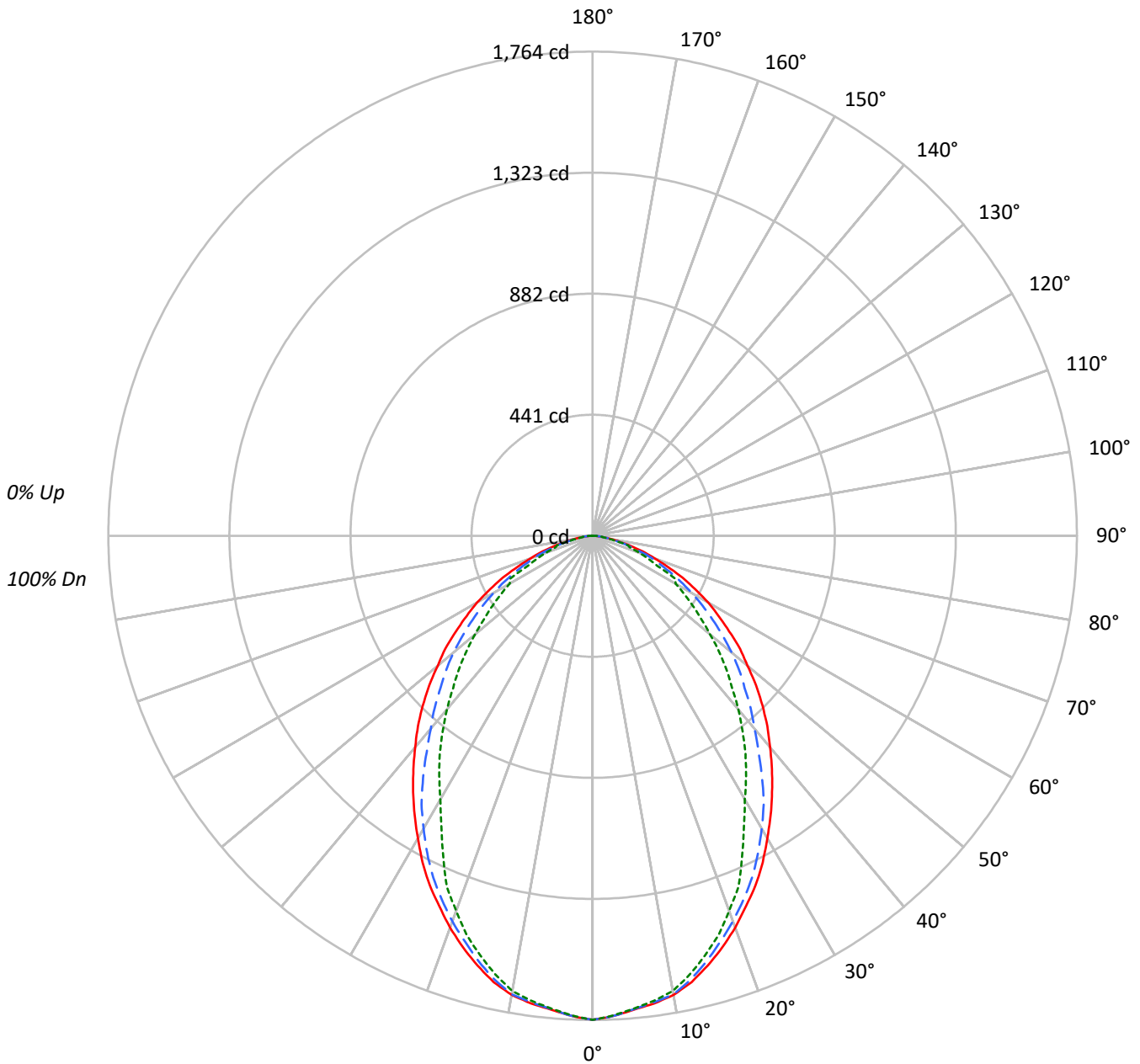
Lumens per Lamp: N/A
Luminaire Lumens: 3462.0 lumens
Efficiency: N/A
Efficacy: 80.1 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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°	4746	4746	4746
5°	4681	4676	4670
10°	4641	4635	4602
15°	4515	4470	4408
20°	4349	4279	4163
25°	4171	4080	3826
30°	3953	3826	3446
35°	3744	3536	3188
40°	3531	3223	2901
45°	3328	2979	2622
50°	3081	2765	2339
55°	2850	2506	2095
60°	2611	2238	1876
65°	2298	1960	1662
70°	1893	1716	1412
75°	1504	1314	1378
80°	1010	948	885
85°	630	756	880



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	164.2	4.7
10°-20°	450.5	13.0
20°-30°	623.7	18.0
30°-40°	665.1	19.2
40°-50°	606.7	17.5
50°-60°	475.3	13.7
60°-70°	309.8	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°	1238.4	35.8
0°-40°	1903.4	55.0
0°-60°	2985.5	86.2
0°-90°	3462.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3462.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1764	1764	1764	1764	1764	
5°	1733	1731	1731	1729	1729	164
15°	1621	1621	1604	1588	1582	456
25°	1405	1396	1374	1325	1288	645
35°	1140	1132	1076	995	970	712
45°	875	856	783	718	689	674
55°	608	589	534	471	446	545
65°	361	340	308	314	261	356
75°	145	135	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°	1763.5	1763.5	1763.5	1763.5	1763.5
2.5°	1751.3	1751.3	1751.3	1749.2	1749.2
5°	1732.9	1730.9	1730.9	1728.8	1728.8
7.5°	1718.6	1716.6	1714.6	1712.5	1708.5
10°	1698.3	1698.3	1696.2	1686.0	1684.0
12.5°	1665.6	1663.6	1655.4	1641.2	1637.1
15°	1620.8	1620.8	1604.5	1588.2	1582.1
17.5°	1571.9	1569.8	1549.4	1533.1	1525.0
20°	1518.8	1514.8	1494.4	1467.9	1453.6
22.5°	1459.7	1459.7	1435.3	1400.6	1386.3
25°	1404.7	1396.5	1374.1	1325.2	1288.5
27.5°	1341.5	1329.2	1304.8	1235.5	1192.7
30°	1272.2	1266.0	1231.4	1141.7	1109.1
32.5°	1206.9	1196.7	1160.0	1066.3	1039.7
35°	1139.6	1131.5	1076.4	994.9	970.4
37.5°	1072.4	1062.2	992.9	927.6	897.0
40°	1005.1	992.9	917.4	858.3	825.7
42.5°	941.9	925.6	852.2	789.0	752.3
45°	874.6	856.3	782.9	717.6	689.1
47.5°	807.3	791.0	723.7	656.5	623.8
50°	736.0	721.7	660.5	593.3	558.6
52.5°	676.9	654.4	595.3	528.0	499.5
55°	607.5	589.2	534.1	470.9	446.5
57.5°	544.3	526.0	475.0	415.9	395.5
60°	485.2	458.7	415.9	364.9	348.6
62.5°	420.0	399.6	362.9	320.1	340.5
65°	360.9	340.5	307.8	314.0	261.0
67.5°	295.6	285.4	256.9	228.3	220.2
70°	240.6	228.3	218.1	187.6	179.4
72.5°	191.6	179.4	165.1	148.8	142.7
75°	144.7	134.6	126.4	120.3	132.5
77.5°	99.9	95.8	89.7	83.6	81.5
80°	65.2	63.2	61.2	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)