

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: P546084

Luminaire Tested: **FMR-12-4-LD4-1STD-50-UNV-81-94-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: P546084
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-LD4-1STD-50-UNV-81-94-EDD
Description: 1X4 FMR TROFFER WITH .156 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

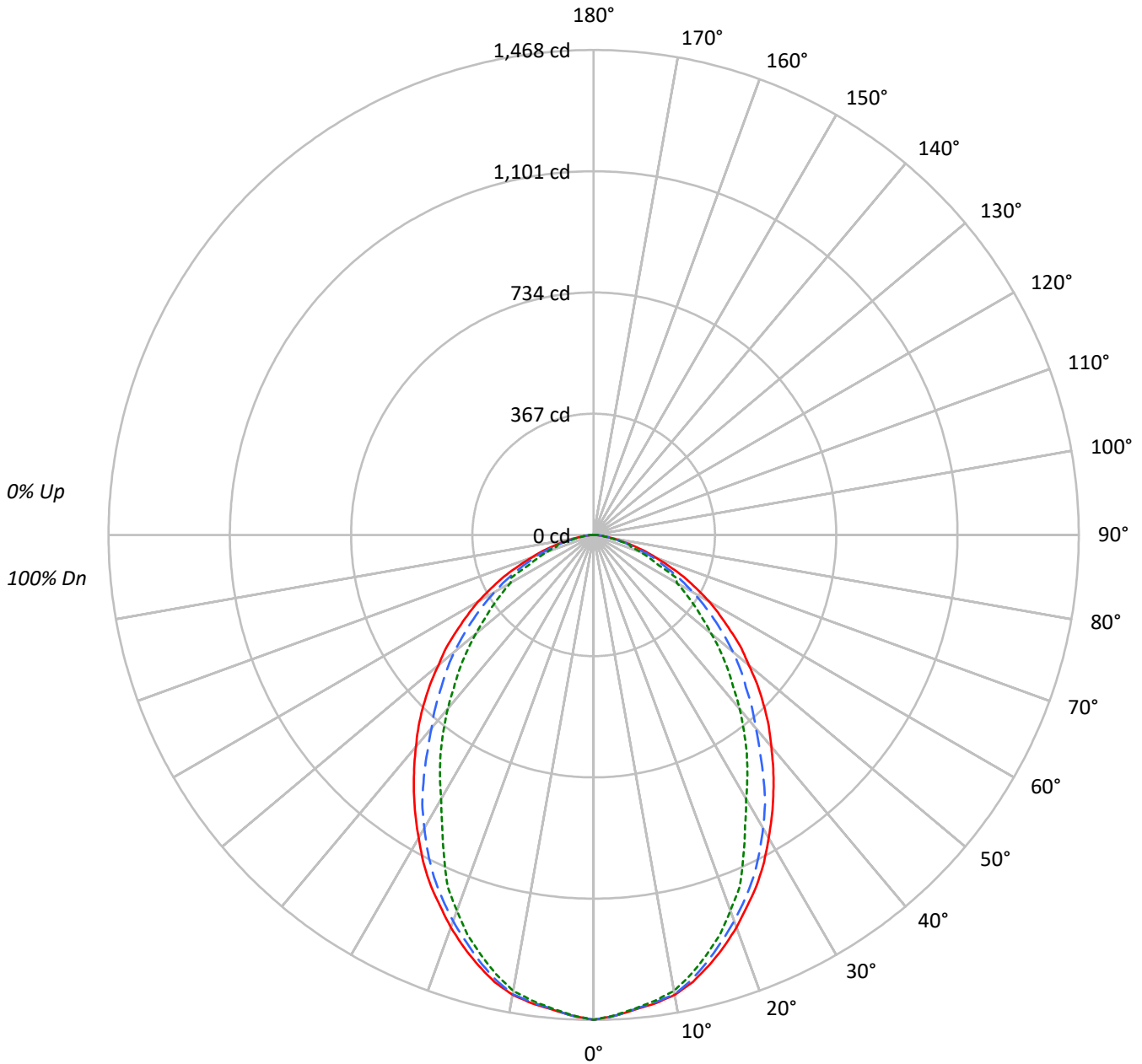
Lumens per Lamp: N/A
Luminaire Lumens: 2881.0 lumens
Efficiency: N/A
Efficacy: 86.5 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 33.3
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°	3949	3949	3949
5°	3895	3891	3886
10°	3862	3857	3829
15°	3758	3720	3668
20°	3620	3561	3464
25°	3471	3395	3184
30°	3290	3184	2868
35°	3116	2943	2653
40°	2938	2682	2414
45°	2770	2479	2182
50°	2564	2301	1946
55°	2372	2085	1743
60°	2173	1863	1561
65°	1912	1631	1383
70°	1575	1428	1175
75°	1253	1094	1147
80°	841	789	736
85°	525	630	735



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	136.6	4.7
10°-20°	374.9	13.0
20°-30°	519.0	18.0
30°-40°	553.4	19.2
40°-50°	504.9	17.5
50°-60°	395.6	13.7
60°-70°	257.8	8.9
70°-80°	114.2	4.0
80°-90°	24.5	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°	1030.6	35.8
0°-40°	1584.0	55.0
0°-60°	2484.5	86.2
0°-90°	2881.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2881.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1468	1468	1468	1468	1468	
5°	1442	1440	1440	1439	1439	137
15°	1349	1349	1335	1322	1316	379
25°	1169	1162	1144	1103	1072	537
35°	948	942	896	828	808	593
45°	728	713	652	597	573	561
55°	506	490	444	392	372	453
65°	300	283	256	261	217	296
75°	120	112	105	100	110	129
85°	17	19	20	22	24	24
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1467.5	1467.5	1467.5	1467.5	1467.5
2.5°	1457.4	1457.4	1457.4	1455.7	1455.7
5°	1442.1	1440.4	1440.4	1438.7	1438.7
7.5°	1430.2	1428.5	1426.8	1425.1	1421.7
10°	1413.3	1413.3	1411.6	1403.1	1401.4
12.5°	1386.1	1384.4	1377.6	1365.7	1362.4
15°	1348.8	1348.8	1335.2	1321.6	1316.5
17.5°	1308.1	1306.4	1289.4	1275.8	1269.0
20°	1264.0	1260.6	1243.6	1221.5	1209.7
22.5°	1214.8	1214.8	1194.4	1165.6	1153.7
25°	1168.9	1162.2	1143.5	1102.8	1072.2
27.5°	1116.4	1106.2	1085.8	1028.1	992.5
30°	1058.7	1053.6	1024.7	950.1	922.9
32.5°	1004.4	995.9	965.4	887.3	865.3
35°	948.4	941.6	895.8	827.9	807.6
37.5°	892.4	883.9	826.2	771.9	746.5
40°	836.4	826.2	763.5	714.3	687.1
42.5°	783.8	770.2	709.2	656.6	626.0
45°	727.8	712.6	651.5	597.2	573.4
47.5°	671.8	658.3	602.3	546.3	519.2
50°	612.5	600.6	549.7	493.7	464.9
52.5°	563.3	544.6	495.4	439.4	415.7
55°	505.6	490.3	444.5	391.9	371.6
57.5°	453.0	437.7	395.3	346.1	329.1
60°	403.8	381.7	346.1	303.7	290.1
62.5°	349.5	332.5	302.0	266.4	283.3
65°	300.3	283.3	256.2	261.3	217.2
67.5°	246.0	237.5	213.8	190.0	183.2
70°	200.2	190.0	181.5	156.1	149.3
72.5°	159.5	149.3	137.4	123.9	118.8
75°	120.5	112.0	105.2	100.1	110.3
77.5°	83.1	79.7	74.6	69.6	67.9
80°	54.3	52.6	50.9	49.2	47.5
82.5°	32.2	32.2	32.2	32.2	32.2
85°	17.0	18.7	20.4	22.1	23.8
87.5°	10.2	10.2	11.9	13.6	15.3
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)