

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: P546098

Luminaire Tested: **FMR-12-4-LD4-1STD-50-UNV-93-87-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: P546098
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-93-87-EDD
Description: 1X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

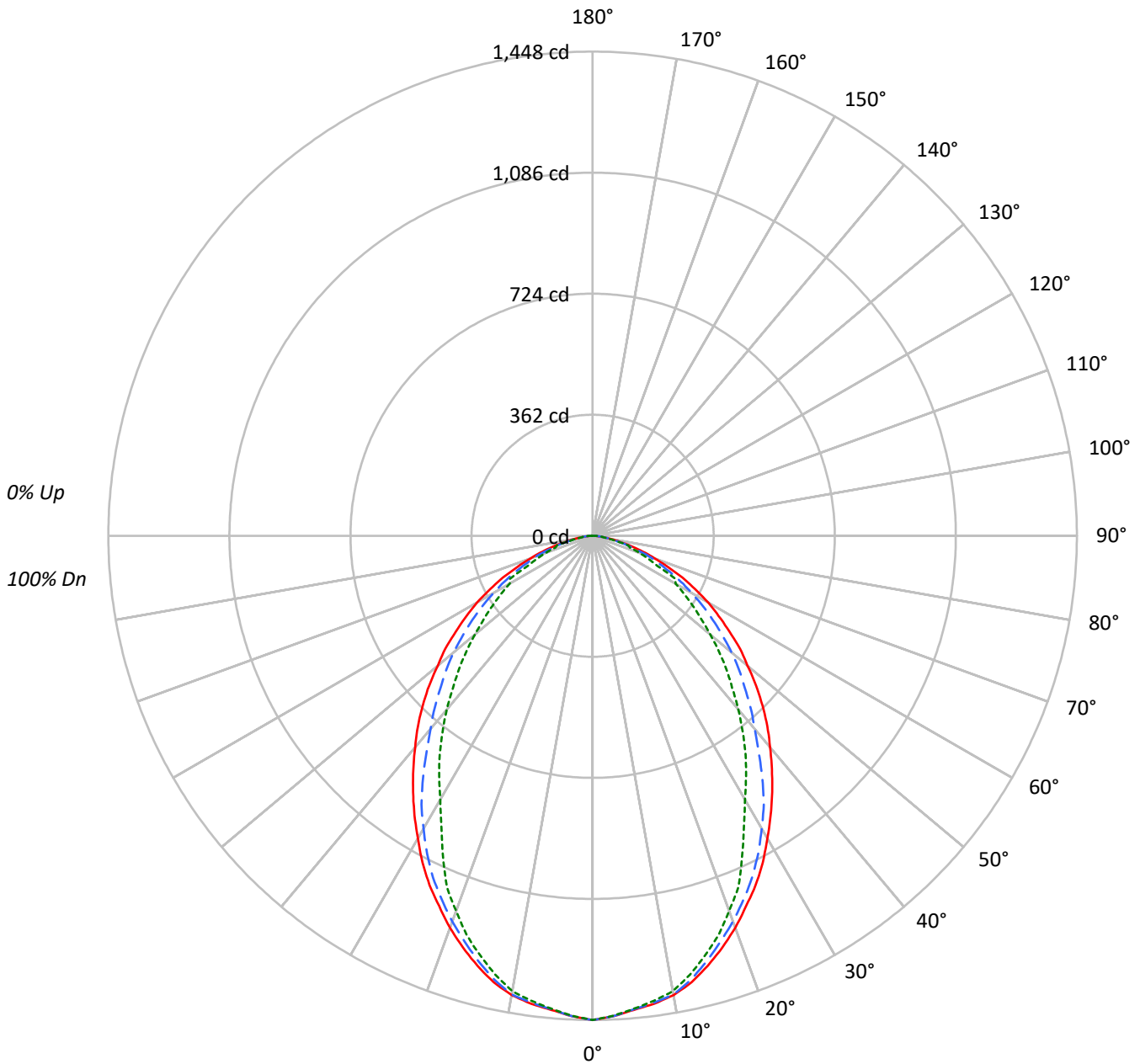
Lumens per Lamp: N/A
Luminaire Lumens: 2843.0 lumens
Efficiency: N/A
Efficacy: 85.4 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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°	3897	3897	3897
5°	3844	3840	3835
10°	3811	3806	3779
15°	3708	3671	3619
20°	3572	3514	3418
25°	3425	3350	3142
30°	3246	3142	2830
35°	3075	2904	2618
40°	2899	2647	2382
45°	2733	2447	2154
50°	2530	2271	1920
55°	2341	2058	1720
60°	2145	1838	1541
65°	1887	1610	1365
70°	1555	1409	1159
75°	1236	1079	1131
80°	831	778	727
85°	516	621	722



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	134.8	4.7
10°-20°	370.0	13.0
20°-30°	512.2	18.0
30°-40°	546.1	19.2
40°-50°	498.2	17.5
50°-60°	390.3	13.7
60°-70°	254.4	8.9
70°-80°	112.7	4.0
80°-90°	24.2	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°	1017.0	35.8
0°-40°	1563.1	55.0
0°-60°	2451.7	86.2
0°-90°	2843.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2843.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1448	1448	1448	1448	1448	
5°	1423	1421	1421	1420	1420	135
15°	1331	1331	1318	1304	1299	374
25°	1154	1147	1128	1088	1058	530
35°	936	929	884	817	797	585
45°	718	703	643	589	566	553
55°	499	484	439	387	367	447
65°	296	280	253	258	214	292
75°	119	110	104	99	109	127
85°	17	18	20	22	23	23
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1448.2	1448.2	1448.2	1448.2	1448.2
2.5°	1438.1	1438.1	1438.1	1436.5	1436.5
5°	1423.1	1421.4	1421.4	1419.7	1419.7
7.5°	1411.4	1409.7	1408.0	1406.3	1403.0
10°	1394.6	1394.6	1392.9	1384.6	1382.9
12.5°	1367.8	1366.2	1359.5	1347.7	1344.4
15°	1331.0	1331.0	1317.6	1304.2	1299.2
17.5°	1290.8	1289.1	1272.4	1259.0	1252.3
20°	1247.3	1243.9	1227.2	1205.4	1193.7
22.5°	1198.7	1198.7	1178.6	1150.2	1138.5
25°	1153.5	1146.8	1128.4	1088.2	1058.1
27.5°	1101.6	1091.6	1071.5	1014.6	979.4
30°	1044.7	1039.7	1011.2	937.6	910.8
32.5°	991.1	982.8	952.6	875.6	853.8
35°	935.9	929.2	884.0	817.0	796.9
37.5°	880.6	872.3	815.3	761.8	736.6
40°	825.4	815.3	753.4	704.8	678.1
42.5°	773.5	760.1	699.8	647.9	617.8
45°	718.2	703.2	642.9	589.3	565.9
47.5°	663.0	649.6	594.3	539.1	512.3
50°	604.4	592.7	542.4	487.2	458.7
52.5°	555.8	537.4	488.9	433.6	410.2
55°	498.9	483.8	438.6	386.7	366.7
57.5°	447.0	431.9	390.1	341.5	324.8
60°	398.5	376.7	341.5	299.7	286.3
62.5°	344.9	328.1	298.0	262.8	279.6
65°	296.3	279.6	252.8	257.8	214.3
67.5°	242.8	234.4	210.9	187.5	180.8
70°	197.6	187.5	179.1	154.0	147.3
72.5°	157.4	147.3	135.6	122.2	117.2
75°	118.9	110.5	103.8	98.8	108.8
77.5°	82.0	78.7	73.7	68.6	67.0
80°	53.6	51.9	50.2	48.6	46.9
82.5°	31.8	31.8	31.8	31.8	31.8
85°	16.7	18.4	20.1	21.8	23.4
87.5°	10.0	10.0	11.7	13.4	15.1
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)