

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: P545829

Luminaire Tested: **FMR-12-4-LD4-1HI-35-UNV-81-96-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: P545829
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-35-UNV-81-96-EDD
Description: 1X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

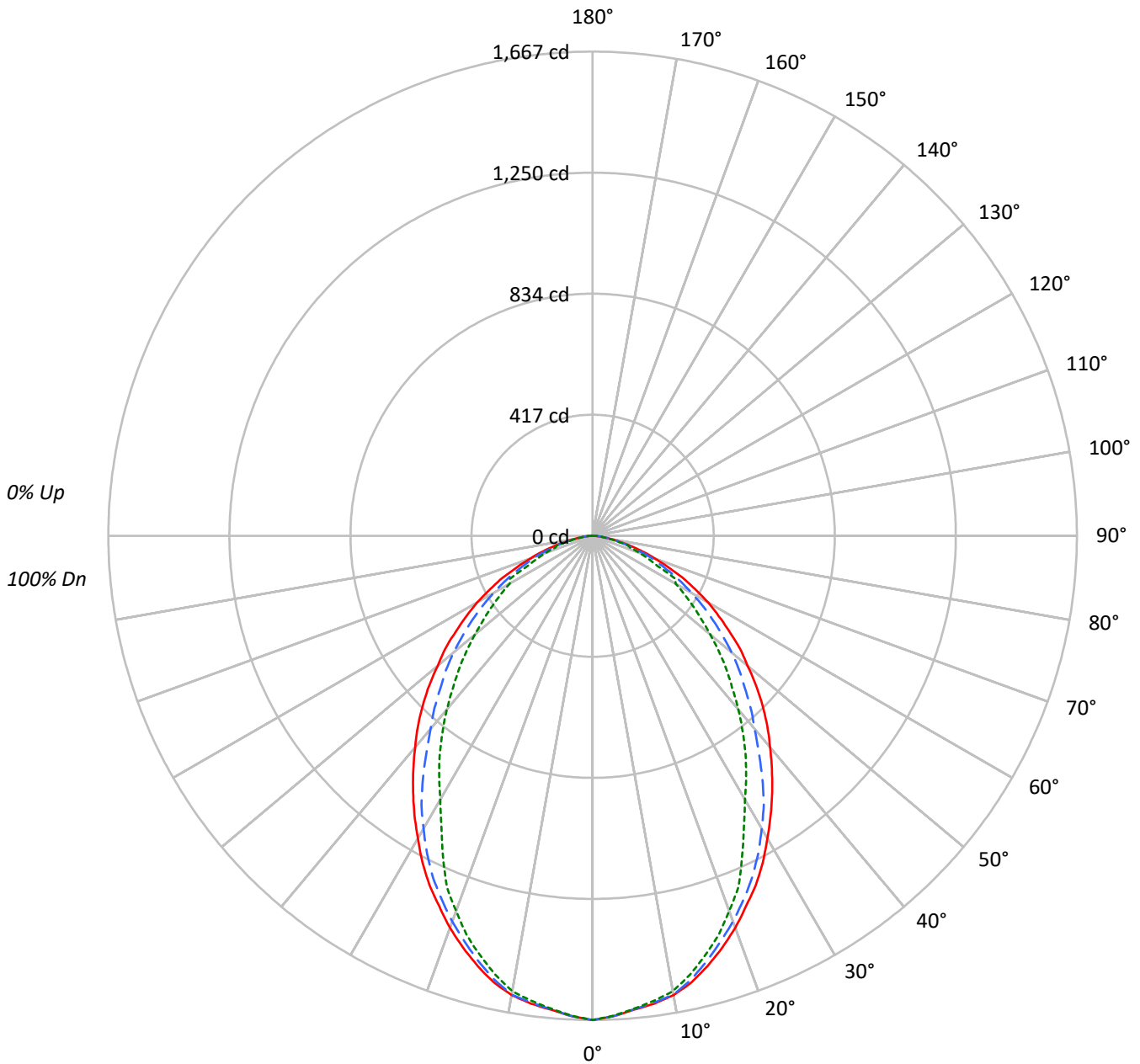
Lumens per Lamp: N/A
Luminaire Lumens: 3273.0 lumens
Efficiency: N/A
Efficacy: 75.8 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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°	4486	4486	4486
5°	4425	4420	4415
10°	4387	4382	4350
15°	4269	4226	4167
20°	4112	4046	3936
25°	3943	3857	3617
30°	3737	3617	3258
35°	3539	3343	3014
40°	3338	3047	2742
45°	3147	2817	2479
50°	2913	2614	2211
55°	2695	2369	1980
60°	2469	2116	1774
65°	2173	1853	1571
70°	1789	1622	1334
75°	1422	1242	1303
80°	956	896	837
85°	596	713	834



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	155.2	4.7
10°-20°	425.9	13.0
20°-30°	589.7	18.0
30°-40°	628.8	19.2
40°-50°	573.6	17.5
50°-60°	449.4	13.7
60°-70°	292.9	8.9
70°-80°	129.8	4.0
80°-90°	27.9	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°	1170.8	35.8
0°-40°	1799.5	55.0
0°-60°	2822.5	86.2
0°-90°	3273.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3273.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1667	1667	1667	1667	1667	
5°	1638	1636	1636	1634	1634	156
15°	1532	1532	1517	1502	1496	431
25°	1328	1320	1299	1253	1218	610
35°	1077	1070	1018	941	918	674
45°	827	810	740	678	652	637
55°	574	557	505	445	422	515
65°	341	322	291	297	247	336
75°	137	127	120	114	125	147
85°	19	21	23	25	27	27
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1667.2	1667.2	1667.2	1667.2	1667.2
2.5°	1655.7	1655.7	1655.7	1653.7	1653.7
5°	1638.3	1636.4	1636.4	1634.5	1634.5
7.5°	1624.8	1622.9	1621.0	1619.0	1615.2
10°	1605.5	1605.5	1603.6	1594.0	1592.1
12.5°	1574.7	1572.8	1565.1	1551.6	1547.7
15°	1532.3	1532.3	1516.9	1501.5	1495.7
17.5°	1486.0	1484.1	1464.8	1449.4	1441.7
20°	1435.9	1432.1	1412.8	1387.7	1374.3
22.5°	1380.0	1380.0	1356.9	1324.1	1310.6
25°	1328.0	1320.3	1299.1	1252.8	1218.1
27.5°	1268.2	1256.7	1233.6	1168.0	1127.5
30°	1202.7	1196.9	1164.2	1079.4	1048.5
32.5°	1141.0	1131.4	1096.7	1008.0	983.0
35°	1077.4	1069.7	1017.7	940.6	917.5
37.5°	1013.8	1004.2	938.7	877.0	848.1
40°	950.2	938.7	867.3	811.4	780.6
42.5°	890.5	875.1	805.7	745.9	711.2
45°	826.9	809.5	740.1	678.5	651.5
47.5°	763.3	747.8	684.2	620.6	589.8
50°	695.8	682.3	624.5	560.9	528.1
52.5°	639.9	618.7	562.8	499.2	472.2
55°	574.4	557.0	505.0	445.2	422.1
57.5°	514.6	497.3	449.1	393.2	373.9
60°	458.7	433.7	393.2	345.0	329.6
62.5°	397.0	377.8	343.1	302.6	321.9
65°	341.2	321.9	291.0	296.8	246.7
67.5°	279.5	269.8	242.9	215.9	208.2
70°	227.4	215.9	206.2	177.3	169.6
72.5°	181.2	169.6	156.1	140.7	134.9
75°	136.8	127.2	119.5	113.7	125.3
77.5°	94.4	90.6	84.8	79.0	77.1
80°	61.7	59.8	57.8	55.9	54.0
82.5°	36.6	36.6	36.6	36.6	36.6
85°	19.3	21.2	23.1	25.1	27.0
87.5°	11.6	11.6	13.5	15.4	17.3
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)