

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: P545487

Luminaire Tested: **FMR-12-2-LD4-1STD-40-UNV-93-84-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: P545487
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-12-2-LD4-1STD-40-UNV-93-84-EDD
Description: 1X2 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

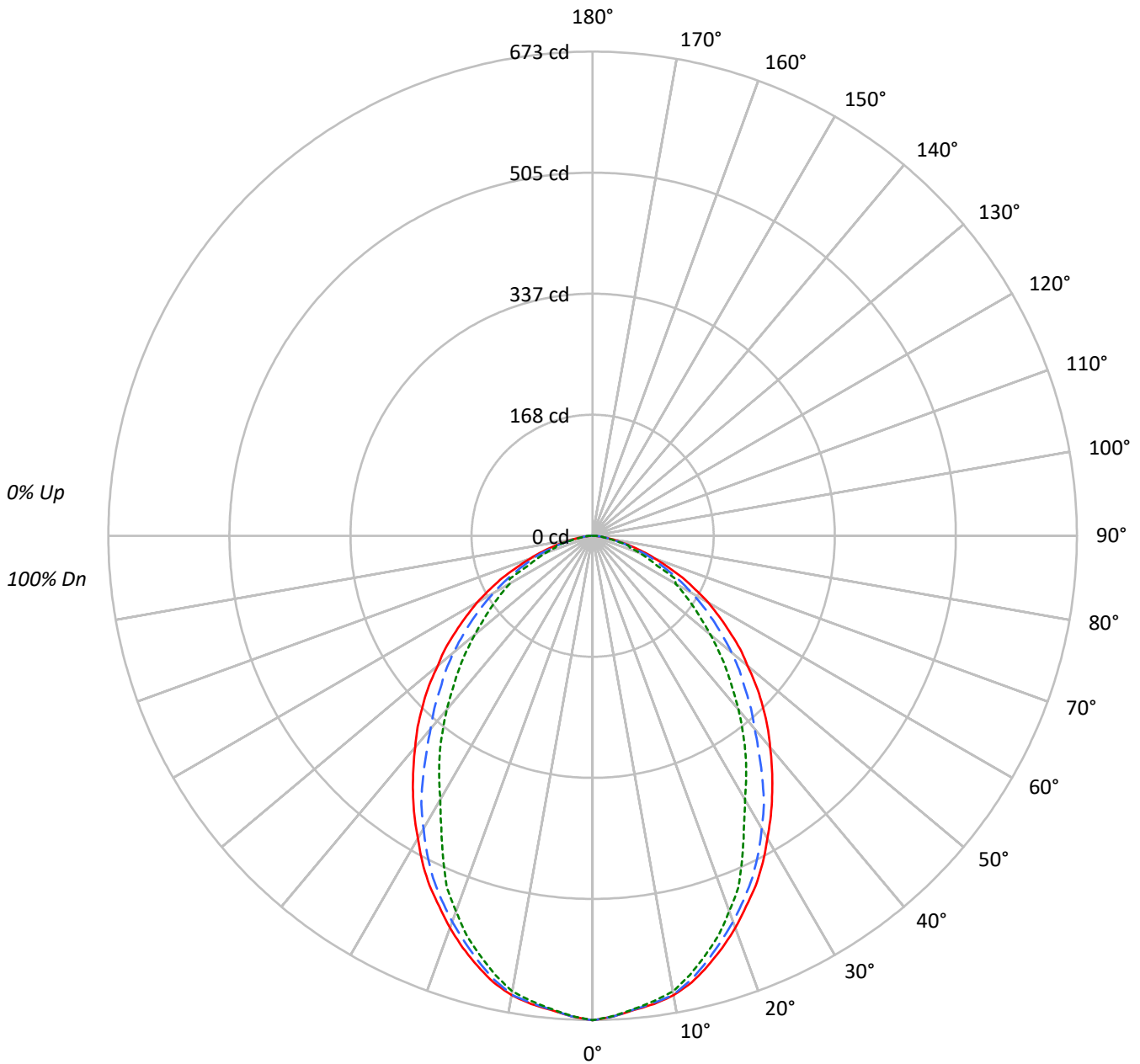
Lumens per Lamp: N/A
Luminaire Lumens: 1322.0 lumens
Efficiency: N/A
Efficacy: 79.6 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')
CIE Type: Direct

Input Watts (W): 16.6
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				20				
RC	80				70				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	100	100	100
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87	87	87	87
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75	75	75	75
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65	65	65	65
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56	56	56	56
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50	50	50	50
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44	44	44	44
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40	40	40	40
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36	36	36	36
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33	33	33	33
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30	30	30	30

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3624	3624	3624
5°	3575	3571	3567
10°	3544	3540	3514
15°	3448	3414	3366
20°	3322	3268	3179
25°	3185	3116	2922
30°	3019	2922	2632
35°	2859	2701	2435
40°	2696	2461	2215
45°	2542	2275	2003
50°	2353	2112	1786
55°	2177	1914	1600
60°	1995	1709	1433
65°	1755	1498	1268
70°	1446	1311	1078
75°	1150	1004	1052
80°	772	725	676
85°	482	574	673



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	62.7	4.7
10°-20°	172.0	13.0
20°-30°	238.2	18.0
30°-40°	254.0	19.2
40°-50°	231.7	17.5
50°-60°	181.5	13.7
60°-70°	118.3	8.9
70°-80°	52.4	4.0
80°-90°	11.3	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°	472.9	35.8
0°-40°	726.9	55.0
0°-60°	1140.0	86.2
0°-90°	1322.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1322.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	673	673	673	673	673	
5°	662	661	661	660	660	63
15°	619	619	613	606	604	174
25°	536	533	525	506	492	246
35°	435	432	411	380	371	272
45°	334	327	299	274	263	257
55°	232	225	204	180	170	208
65°	138	130	118	120	100	136
75°	55	51	48	46	51	59
85°	8	9	9	10	11	11
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	673.4	673.4	673.4	673.4	673.4
2.5°	668.7	668.7	668.7	668.0	668.0
5°	661.7	661.0	661.0	660.2	660.2
7.5°	656.3	655.5	654.7	653.9	652.4
10°	648.5	648.5	647.7	643.8	643.0
12.5°	636.0	635.3	632.1	626.7	625.1
15°	618.9	618.9	612.7	606.5	604.1
17.5°	600.2	599.5	591.7	585.4	582.3
20°	580.0	578.4	570.6	560.5	555.1
22.5°	557.4	557.4	548.1	534.8	529.4
25°	536.4	533.3	524.7	506.0	492.0
27.5°	512.3	507.6	498.2	471.8	455.4
30°	485.8	483.5	470.2	436.0	423.5
32.5°	460.9	457.0	443.0	407.2	397.0
35°	435.2	432.1	411.1	379.9	370.6
37.5°	409.5	405.6	379.1	354.2	342.5
40°	383.8	379.1	350.3	327.8	315.3
42.5°	359.7	353.4	325.4	301.3	287.3
45°	334.0	327.0	298.9	274.0	263.1
47.5°	308.3	302.1	276.4	250.7	238.2
50°	281.0	275.6	252.2	226.5	213.3
52.5°	258.5	249.9	227.3	201.6	190.7
55°	232.0	225.0	204.0	179.8	170.5
57.5°	207.9	200.9	181.4	158.8	151.0
60°	185.3	175.2	158.8	139.4	133.1
62.5°	160.4	152.6	138.6	122.2	130.0
65°	137.8	130.0	117.6	119.9	99.6
67.5°	112.9	109.0	98.1	87.2	84.1
70°	91.9	87.2	83.3	71.6	68.5
72.5°	73.2	68.5	63.1	56.8	54.5
75°	55.3	51.4	48.3	45.9	50.6
77.5°	38.1	36.6	34.3	31.9	31.1
80°	24.9	24.1	23.4	22.6	21.8
82.5°	14.8	14.8	14.8	14.8	14.8
85°	7.8	8.6	9.3	10.1	10.9
87.5°	4.7	4.7	5.4	6.2	7.0
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)