

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: P545473

Luminaire Tested: **FMR-12-2-LD4-1STD-40-UNV-81-86-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: P545473
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-81-86-EDD
Description: 1X2 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

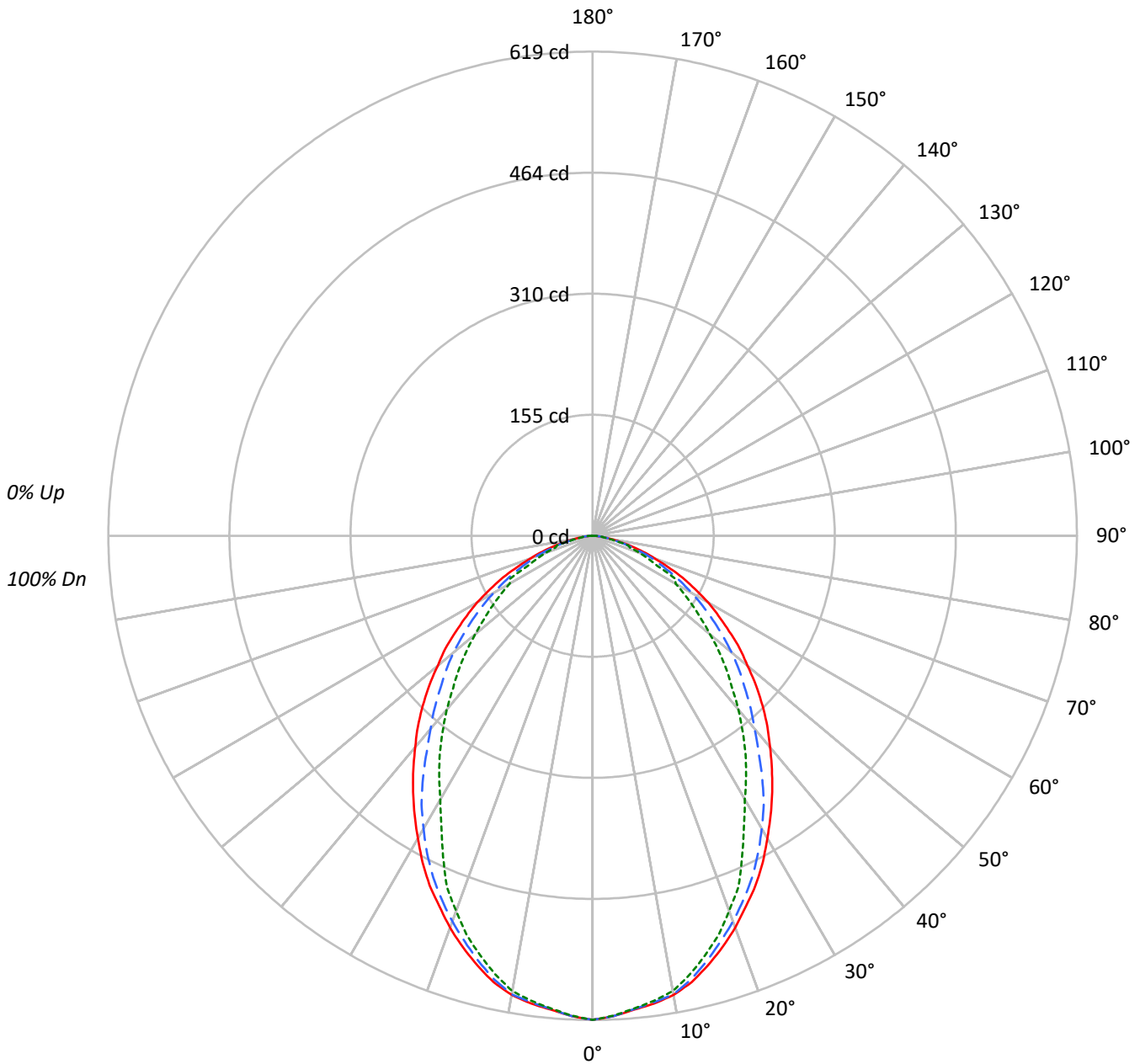
Lumens per Lamp: N/A
Luminaire Lumens: 1215.0 lumens
Efficiency: N/A
Efficacy: 73.2 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')
CIE Type: Direct

Input Watts (W): 16.6
Input Voltage (V): NR
Input Current (A_{in}): 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°	3331	3331	3331
5°	3286	3282	3278
10°	3257	3253	3230
15°	3169	3137	3093
20°	3053	3004	2922
25°	2928	2863	2685
30°	2775	2686	2419
35°	2628	2482	2238
40°	2478	2262	2036
45°	2336	2092	1840
50°	2163	1941	1641
55°	2000	1759	1470
60°	1833	1572	1316
65°	1612	1375	1167
70°	1328	1205	991
75°	1056	923	967
80°	710	666	620
85°	445	531	618



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	57.6	4.7
10°-20°	158.1	13.0
20°-30°	218.9	18.0
30°-40°	233.4	19.2
40°-50°	212.9	17.5
50°-60°	166.8	13.7
60°-70°	108.7	8.9
70°-80°	48.2	4.0
80°-90°	10.3	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°	434.6	35.8
0°-40°	668.0	55.0
0°-60°	1047.8	86.2
0°-90°	1215.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1215.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	619	619	619	619	619	
5°	608	608	608	607	607	58
15°	569	569	563	557	555	160
25°	493	490	482	465	452	226
35°	400	397	378	349	341	250
45°	307	300	275	252	242	236
55°	213	207	188	165	157	191
65°	127	120	108	110	92	125
75°	51	47	44	42	46	54
85°	7	8	9	9	10	10
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	618.9	618.9	618.9	618.9	618.9
2.5°	614.6	614.6	614.6	613.9	613.9
5°	608.2	607.5	607.5	606.7	606.7
7.5°	603.2	602.4	601.7	601.0	599.6
10°	596.0	596.0	595.3	591.7	591.0
12.5°	584.6	583.8	581.0	576.0	574.5
15°	568.8	568.8	563.1	557.4	555.2
17.5°	551.6	550.9	543.8	538.1	535.2
20°	533.0	531.6	524.5	515.2	510.1
22.5°	512.3	512.3	503.7	491.5	486.5
25°	493.0	490.1	482.2	465.1	452.2
27.5°	470.8	466.5	457.9	433.6	418.6
30°	446.5	444.3	432.2	400.7	389.2
32.5°	423.6	420.0	407.1	374.2	364.9
35°	400.0	397.1	377.8	349.2	340.6
37.5°	376.4	372.8	348.4	325.6	314.8
40°	352.7	348.4	322.0	301.2	289.8
42.5°	330.6	324.8	299.1	276.9	264.0
45°	306.9	300.5	274.8	251.9	241.8
47.5°	283.3	277.6	254.0	230.4	218.9
50°	258.3	253.3	231.8	208.2	196.0
52.5°	237.5	229.7	208.9	185.3	175.3
55°	213.2	206.8	187.5	165.3	156.7
57.5°	191.0	184.6	166.7	146.0	138.8
60°	170.3	161.0	146.0	128.1	122.3
62.5°	147.4	140.2	127.4	112.3	119.5
65°	126.6	119.5	108.0	110.2	91.6
67.5°	103.7	100.2	90.2	80.1	77.3
70°	84.4	80.1	76.6	65.8	63.0
72.5°	67.3	63.0	58.0	52.2	50.1
75°	50.8	47.2	44.4	42.2	46.5
77.5°	35.1	33.6	31.5	29.3	28.6
80°	22.9	22.2	21.5	20.7	20.0
82.5°	13.6	13.6	13.6	13.6	13.6
85°	7.2	7.9	8.6	9.3	10.0
87.5°	4.3	4.3	5.0	5.7	6.4
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)