

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: P545290

Luminaire Tested: **FMR-12-2-LD4-1HI-40-UNV-82-87-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: P545290
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-LD4-1HI-40-UNV-82-87-EDD
Description: 1X2 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

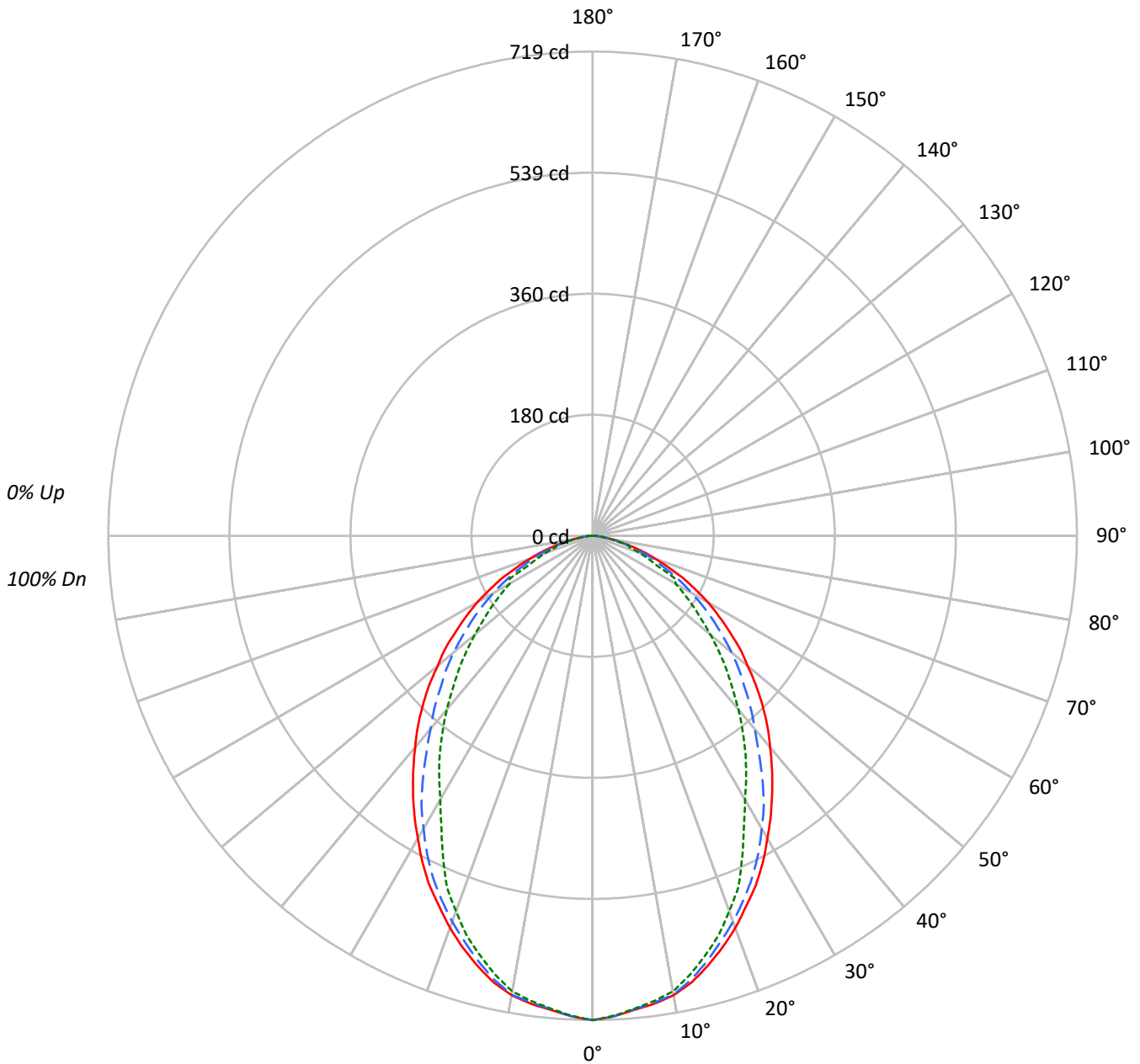
Lumens per Lamp: N/A
Luminaire Lumens: 1412.0 lumens
Efficiency: N/A
Efficacy: 65.4 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')
CIE Type: Direct

Input Watts (W): 21.6
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°	3871	3871	3871
5°	3818	3814	3809
10°	3785	3781	3753
15°	3683	3646	3595
20°	3548	3491	3396
25°	3402	3328	3121
30°	3225	3121	2811
35°	3054	2884	2600
40°	2880	2629	2366
45°	2715	2430	2139
50°	2514	2256	1907
55°	2325	2045	1709
60°	2130	1826	1531
65°	1875	1599	1355
70°	1544	1400	1152
75°	1227	1073	1123
80°	824	772	722
85°	513	618	716



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	67.0	4.7
10°-20°	183.7	13.0
20°-30°	254.4	18.0
30°-40°	271.2	19.2
40°-50°	247.5	17.5
50°-60°	193.9	13.7
60°-70°	126.4	8.9
70°-80°	56.0	4.0
80°-90°	12.0	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°	505.1	35.8
0°-40°	776.3	55.0
0°-60°	1217.6	86.2
0°-90°	1412.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1412.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	719	719	719	719	719	
5°	707	706	706	705	705	67
15°	661	661	654	648	645	186
25°	573	570	560	540	526	263
35°	465	462	439	406	396	291
45°	357	349	319	293	281	275
55°	248	240	218	192	182	222
65°	147	139	126	128	106	145
75°	59	55	52	49	54	63
85°	8	9	10	11	12	12
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	719.3	719.3	719.3	719.3	719.3
2.5°	714.3	714.3	714.3	713.4	713.4
5°	706.8	705.9	705.9	705.1	705.1
7.5°	701.0	700.1	699.3	698.5	696.8
10°	692.6	692.6	691.8	687.7	686.8
12.5°	679.3	678.5	675.2	669.4	667.7
15°	661.0	661.0	654.4	647.7	645.2
17.5°	641.1	640.3	631.9	625.3	622.0
20°	619.5	617.8	609.5	598.7	592.9
22.5°	595.4	595.4	585.4	571.2	565.4
25°	572.9	569.6	560.4	540.5	525.5
27.5°	547.1	542.1	532.2	503.9	486.4
30°	518.9	516.4	502.2	465.6	452.3
32.5°	492.3	488.1	473.1	434.9	424.1
35°	464.8	461.5	439.0	405.8	395.8
37.5°	437.4	433.2	404.9	378.3	365.9
40°	409.9	404.9	374.2	350.1	336.8
42.5°	384.2	377.5	347.6	321.8	306.8
45°	356.7	349.2	319.3	292.7	281.0
47.5°	329.3	322.6	295.2	267.7	254.4
50°	300.2	294.4	269.4	242.0	227.8
52.5°	276.1	266.9	242.8	215.4	203.7
55°	247.8	240.3	217.9	192.1	182.1
57.5°	222.0	214.5	193.7	169.6	161.3
60°	197.9	187.1	169.6	148.8	142.2
62.5°	171.3	163.0	148.0	130.5	138.9
65°	147.2	138.9	125.6	128.1	106.4
67.5°	120.6	116.4	104.8	93.1	89.8
70°	98.1	93.1	89.0	76.5	73.2
72.5°	78.2	73.2	67.4	60.7	58.2
75°	59.0	54.9	51.6	49.1	54.0
77.5°	40.7	39.1	36.6	34.1	33.3
80°	26.6	25.8	24.9	24.1	23.3
82.5°	15.8	15.8	15.8	15.8	15.8
85°	8.3	9.1	10.0	10.8	11.6
87.5°	5.0	5.0	5.8	6.7	7.5
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)