

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: P546324

Luminaire Tested: **FMR-12-4-LD4-2STD-35-UNV-93-94-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: P546324
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-LD4-2STD-35-UNV-93-94-EDD
Description: 1X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

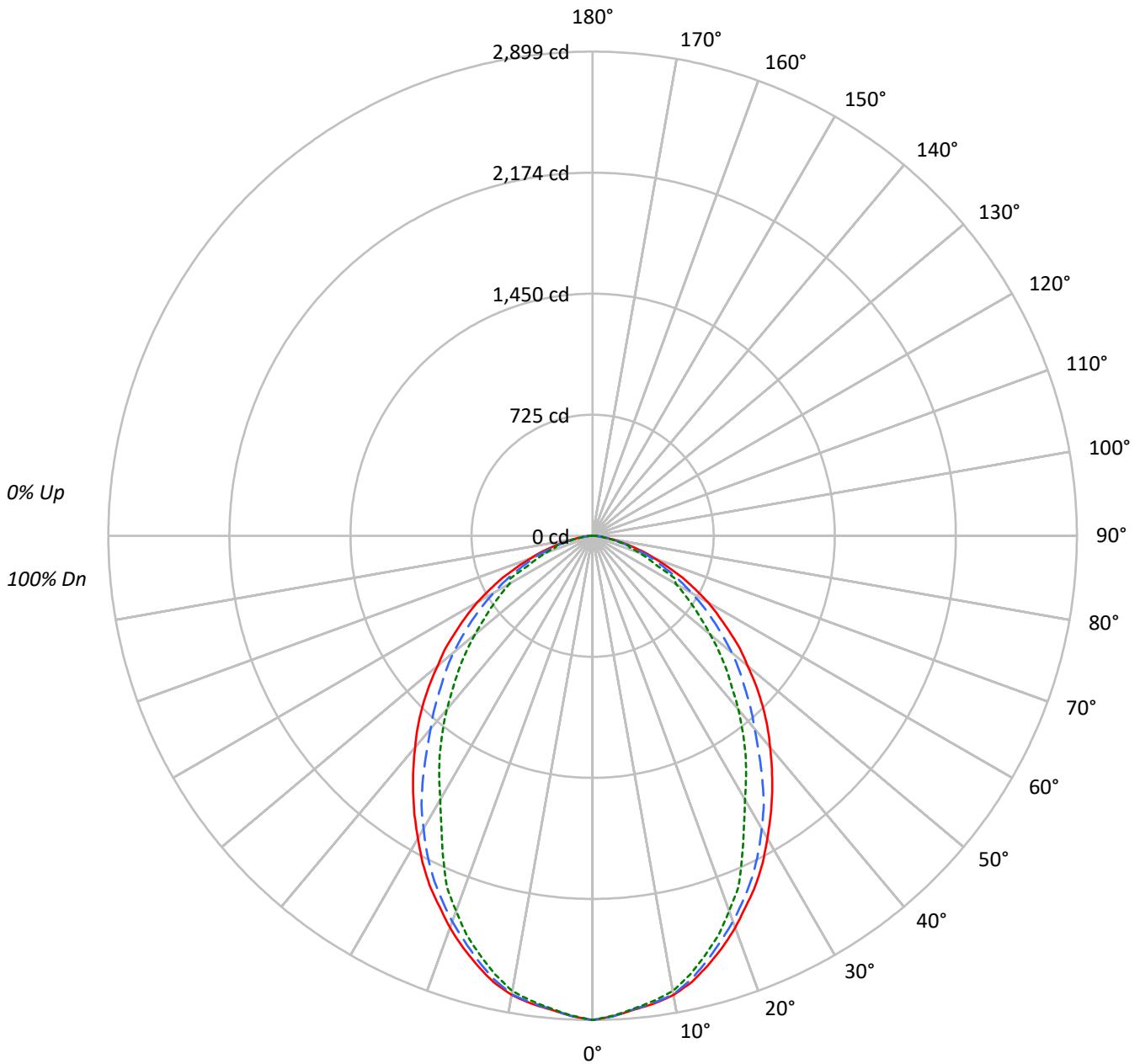
Lumens per Lamp: N/A
Luminaire Lumens: 5691.0 lumens
Efficiency: N/A
Efficacy: 85.5 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 66.6
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°	7801	7801	7801
5°	7695	7686	7677
10°	7628	7619	7564
15°	7422	7348	7245
20°	7150	7035	6843
25°	6856	6707	6289
30°	6498	6290	5665
35°	6154	5813	5240
40°	5804	5298	4768
45°	5471	4897	4311
50°	5065	4546	3844
55°	4685	4120	3443
60°	4293	3680	3084
65°	3777	3223	2732
70°	3112	2821	2320
75°	2473	2161	2264
80°	1661	1557	1454
85°	1034	1241	1448



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	269.8	4.7
10°-20°	740.6	13.0
20°-30°	1025.3	18.0
30°-40°	1093.3	19.2
40°-50°	997.4	17.5
50°-60°	781.4	13.7
60°-70°	509.3	8.9
70°-80°	225.6	4.0
80°-90°	48.5	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°	2035.7	35.8
0°-40°	3129.0	55.0
0°-60°	4907.7	86.2
0°-90°	5691.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5691.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2899	2899	2899	2899	2899	
5°	2849	2845	2845	2842	2842	270
15°	2664	2664	2638	2611	2601	749
25°	2309	2296	2259	2178	2118	1060
35°	1873	1860	1770	1636	1595	1171
45°	1438	1408	1287	1180	1133	1107
55°	999	968	878	774	734	896
65°	593	560	506	516	429	585
75°	238	221	208	198	218	255
85°	34	37	40	44	47	46
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2898.9	2898.9	2898.9	2898.9	2898.9
2.5°	2878.8	2878.8	2878.8	2875.5	2875.5
5°	2848.6	2845.3	2845.3	2841.9	2841.9
7.5°	2825.2	2821.8	2818.5	2815.1	2808.4
10°	2791.7	2791.7	2788.3	2771.6	2768.2
12.5°	2738.1	2734.7	2721.3	2697.8	2691.1
15°	2664.3	2664.3	2637.5	2610.7	2600.6
17.5°	2583.9	2580.5	2547.0	2520.2	2506.8
20°	2496.8	2490.1	2456.5	2413.0	2389.5
22.5°	2399.6	2399.6	2359.4	2302.4	2278.9
25°	2309.1	2295.7	2258.8	2178.4	2118.1
27.5°	2205.2	2185.1	2144.9	2030.9	1960.5
30°	2091.2	2081.2	2024.2	1876.8	1823.1
32.5°	1984.0	1967.2	1906.9	1752.8	1709.2
35°	1873.4	1860.0	1769.5	1635.5	1595.2
37.5°	1762.8	1746.1	1632.1	1524.9	1474.6
40°	1652.2	1632.1	1508.1	1410.9	1357.3
42.5°	1548.3	1521.5	1400.9	1297.0	1236.6
45°	1437.7	1407.6	1286.9	1179.7	1132.8
47.5°	1327.1	1300.3	1189.7	1079.1	1025.5
50°	1209.8	1186.4	1085.8	975.2	918.3
52.5°	1112.6	1075.8	978.6	868.0	821.1
55°	998.7	968.5	878.1	774.2	733.9
57.5°	894.8	864.6	780.9	683.7	650.2
60°	797.6	754.1	683.7	599.9	573.1
62.5°	690.4	656.9	596.5	526.2	559.7
65°	593.2	559.7	506.1	516.1	429.0
67.5°	485.9	469.2	422.3	375.4	361.9
70°	395.5	375.4	358.6	308.3	294.9
72.5°	315.0	294.9	271.5	244.6	234.6
75°	237.9	221.2	207.8	197.7	217.8
77.5°	164.2	157.5	147.5	137.4	134.1
80°	107.2	103.9	100.5	97.2	93.8
82.5°	63.7	63.7	63.7	63.7	63.7
85°	33.5	36.9	40.2	43.6	46.9
87.5°	20.1	20.1	23.5	26.8	30.2
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)