

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: P546389

Luminaire Tested: **FMR-12-4-LD4-2STD-50-UNV-93-96-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: P546389
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-50-UNV-93-96-EDD
Description: 1X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

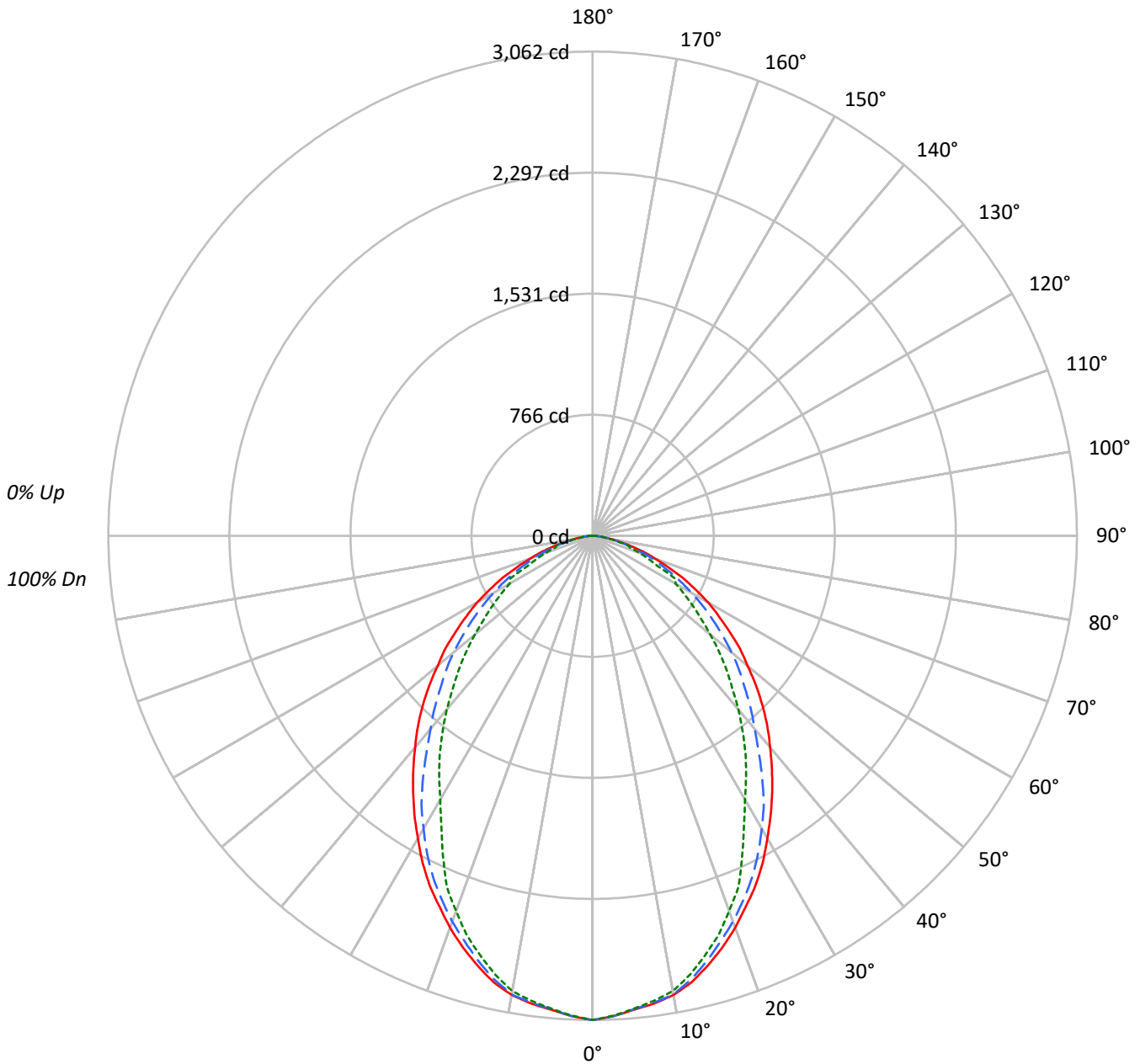
Lumens per Lamp: N/A
Luminaire Lumens: 6011.0 lumens
Efficiency: N/A
Efficacy: 90.3 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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°	8240	8240	8240
5°	8128	8118	8108
10°	8057	8047	7990
15°	7840	7761	7653
20°	7552	7430	7228
25°	7242	7084	6643
30°	6863	6643	5983
35°	6500	6140	5535
40°	6130	5596	5036
45°	5779	5173	4553
50°	5350	4801	4060
55°	4949	4351	3637
60°	4534	3886	3258
65°	3989	3403	2885
70°	3286	2980	2451
75°	2613	2282	2392
80°	1756	1646	1536
85°	1093	1312	1531



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	285.0	4.7
10°-20°	782.2	13.0
20°-30°	1082.9	18.0
30°-40°	1154.7	19.2
40°-50°	1053.4	17.5
50°-60°	825.3	13.7
60°-70°	537.9	8.9
70°-80°	238.3	4.0
80°-90°	51.2	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°	2150.2	35.8
0°-40°	3304.9	55.0
0°-60°	5183.6	86.2
0°-90°	6011.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6011.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3062	3062	3062	3062	3062	
5°	3009	3005	3005	3002	3002	286
15°	2814	2814	2786	2758	2747	791
25°	2439	2425	2386	2301	2237	1120
35°	1979	1965	1869	1727	1685	1237
45°	1519	1487	1359	1246	1196	1170
55°	1055	1023	927	818	775	946
65°	626	591	534	545	453	617
75°	251	234	220	209	230	269
85°	35	39	42	46	50	49
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3061.9	3061.9	3061.9	3061.9	3061.9
2.5°	3040.7	3040.7	3040.7	3037.1	3037.1
5°	3008.8	3005.3	3005.3	3001.7	3001.7
7.5°	2984.0	2980.5	2977.0	2973.4	2966.3
10°	2948.6	2948.6	2945.1	2927.4	2923.9
12.5°	2892.0	2888.5	2874.3	2849.5	2842.5
15°	2814.1	2814.1	2785.8	2757.5	2746.9
17.5°	2729.2	2725.6	2690.2	2661.9	2647.8
20°	2637.1	2630.1	2594.7	2548.7	2523.9
22.5°	2534.5	2534.5	2492.0	2431.8	2407.1
25°	2438.9	2424.8	2385.8	2300.9	2237.2
27.5°	2329.2	2307.9	2265.5	2145.1	2070.8
30°	2208.8	2198.2	2138.0	1982.3	1925.6
32.5°	2095.6	2077.9	2014.1	1851.3	1805.3
35°	1978.7	1964.6	1869.0	1727.4	1684.9
37.5°	1861.9	1844.2	1723.9	1610.6	1557.5
40°	1745.1	1723.9	1592.9	1490.3	1433.6
42.5°	1635.4	1607.1	1479.6	1369.9	1306.2
45°	1518.6	1486.7	1359.3	1246.0	1196.5
47.5°	1401.8	1373.4	1256.6	1139.8	1083.2
50°	1277.9	1253.1	1146.9	1030.1	969.9
52.5°	1175.2	1136.3	1033.6	916.8	867.2
55°	1054.9	1023.0	927.4	817.7	775.2
57.5°	945.1	913.3	824.8	722.1	686.7
60°	842.5	796.5	722.1	633.6	605.3
62.5°	729.2	693.8	630.1	555.7	591.1
65°	626.5	591.1	534.5	545.1	453.1
67.5°	513.3	495.6	446.0	396.5	382.3
70°	417.7	396.5	378.8	325.7	311.5
72.5°	332.7	311.5	286.7	258.4	247.8
75°	251.3	233.6	219.5	208.8	230.1
77.5°	173.4	166.4	155.8	145.1	141.6
80°	113.3	109.7	106.2	102.7	99.1
82.5°	67.3	67.3	67.3	67.3	67.3
85°	35.4	38.9	42.5	46.0	49.6
87.5°	21.2	21.2	24.8	28.3	31.9
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)