

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: P546105

Luminaire Tested: **FMR-12-4-LD4-2HI-35-UNV-80-86-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: P546105
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-LD4-2HI-35-UNV-80-86-EDD
Description: 1X4 FMR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

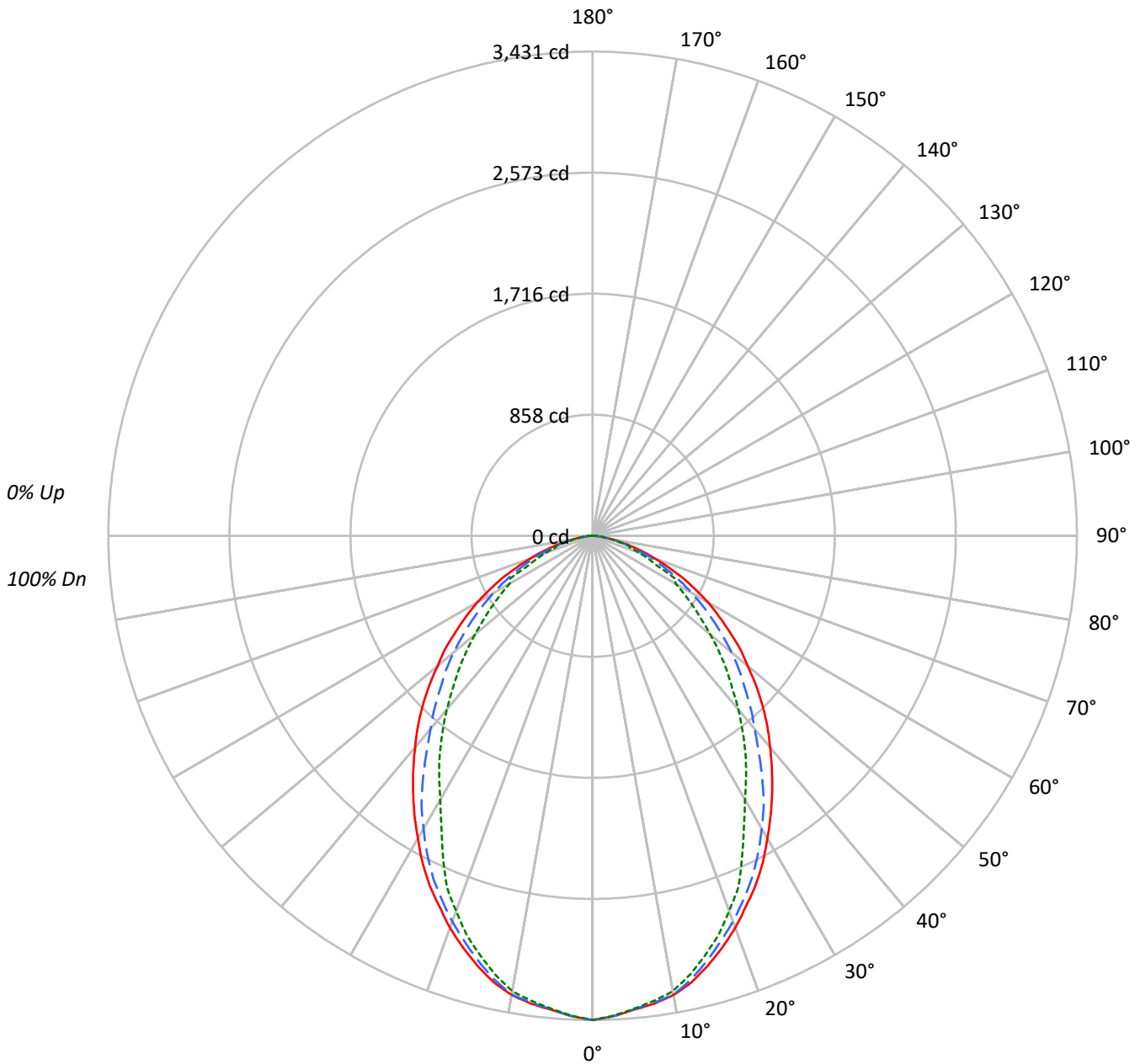
Lumens per Lamp: N/A
Luminaire Lumens: 6736.0 lumens
Efficiency: N/A
Efficacy: 78.0 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 86.4
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				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
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87				87
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75				75
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65				65
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56				56
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50				50
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44				44
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40				40
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36				36
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33				33
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30				30

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	9233	9233	9233
5°	9108	9097	9086
10°	9029	9018	8953
15°	8786	8697	8576
20°	8463	8326	8099
25°	8115	7938	7444
30°	7691	7445	6705
35°	7284	6880	6203
40°	6870	6270	5643
45°	6476	5797	5103
50°	5995	5380	4550
55°	5546	4876	4076
60°	5081	4355	3651
65°	4471	3814	3233
70°	3683	3339	2747
75°	2928	2557	2680
80°	1967	1844	1722
85°	1226	1470	1714



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	319.4	4.7
10°-20°	876.6	13.0
20°-30°	1213.5	18.0
30°-40°	1294.0	19.2
40°-50°	1180.5	17.5
50°-60°	924.8	13.7
60°-70°	602.8	8.9
70°-80°	267.0	4.0
80°-90°	57.3	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°	2409.5	35.8
0°-40°	3703.5	55.0
0°-60°	5808.8	86.2
0°-90°	6736.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6736.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3431	3431	3431	3431	3431	
5°	3372	3368	3368	3364	3364	320
15°	3154	3154	3122	3090	3078	887
25°	2733	2717	2674	2578	2507	1255
35°	2217	2202	2094	1936	1888	1386
45°	1702	1666	1523	1396	1341	1311
55°	1182	1146	1039	916	869	1060
65°	702	662	599	611	508	692
75°	282	262	246	234	258	302
85°	40	44	48	52	56	55
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3431.2	3431.2	3431.2	3431.2	3431.2
2.5°	3407.4	3407.4	3407.4	3403.5	3403.5
5°	3371.7	3367.8	3367.8	3363.8	3363.8
7.5°	3344.0	3340.0	3336.0	3332.1	3324.1
10°	3304.3	3304.3	3300.3	3280.5	3276.5
12.5°	3240.8	3236.9	3221.0	3193.2	3185.3
15°	3153.6	3153.6	3121.8	3090.1	3078.2
17.5°	3058.4	3054.4	3014.7	2983.0	2967.1
20°	2955.2	2947.3	2907.6	2856.1	2828.3
22.5°	2840.2	2840.2	2792.6	2725.1	2697.4
25°	2733.1	2717.2	2673.6	2578.4	2507.0
27.5°	2610.1	2586.3	2538.7	2403.8	2320.5
30°	2475.2	2463.3	2395.9	2221.4	2157.9
32.5°	2348.3	2328.5	2257.1	2074.6	2023.0
35°	2217.4	2201.5	2094.4	1935.8	1888.2
37.5°	2086.5	2066.7	1931.8	1804.9	1745.4
40°	1955.6	1931.8	1785.0	1670.0	1606.5
42.5°	1832.6	1800.9	1658.1	1535.1	1463.7
45°	1701.7	1666.0	1523.2	1396.3	1340.8
47.5°	1570.8	1539.1	1408.2	1277.3	1213.8
50°	1432.0	1404.2	1285.2	1154.3	1086.9
52.5°	1317.0	1273.3	1158.3	1027.4	971.9
55°	1182.1	1146.4	1039.3	916.3	868.7
57.5°	1059.1	1023.4	924.2	809.2	769.5
60°	944.1	892.5	809.2	710.0	678.3
62.5°	817.1	777.5	706.1	622.8	662.4
65°	702.1	662.4	599.0	610.9	507.7
67.5°	575.2	555.3	499.8	444.3	428.4
70°	468.1	444.3	424.4	364.9	349.1
72.5°	372.9	349.1	321.3	289.6	277.7
75°	281.6	261.8	245.9	234.0	257.8
77.5°	194.4	186.4	174.5	162.6	158.7
80°	126.9	123.0	119.0	115.0	111.1
82.5°	75.4	75.4	75.4	75.4	75.4
85°	39.7	43.6	47.6	51.6	55.5
87.5°	23.8	23.8	27.8	31.7	35.7
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)