

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: P546114

Luminaire Tested: **FMR-12-4-LD4-2HI-35-UNV-81-87-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: P546114
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-81-87-EDD
Description: 1X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

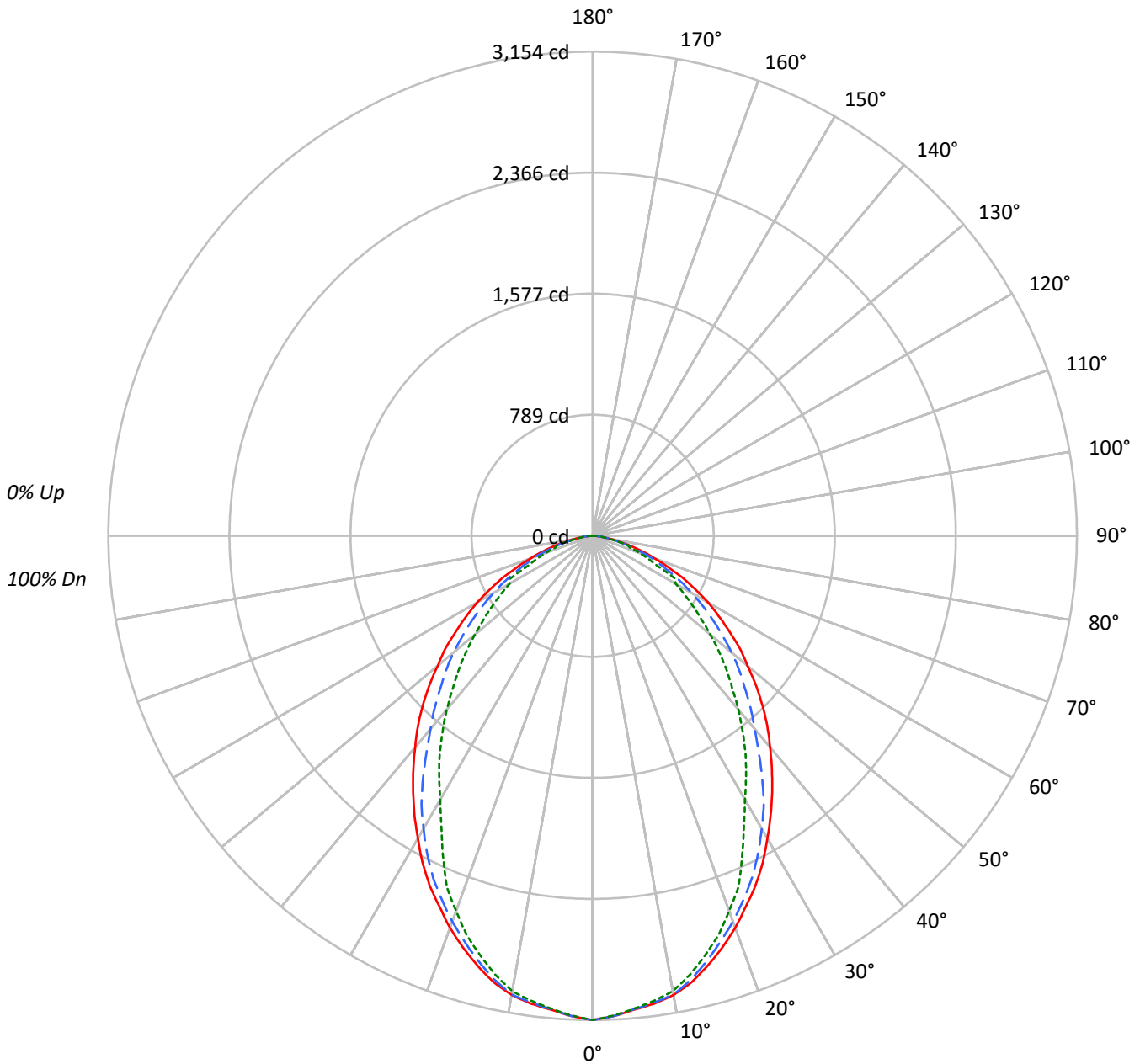
Lumens per Lamp: N/A
Luminaire Lumens: 6192.0 lumens
Efficiency: N/A
Efficacy: 71.7 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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°	8488	8488	8488
5°	8372	8363	8353
10°	8300	8290	8230
15°	8076	7995	7883
20°	7779	7654	7445
25°	7460	7297	6842
30°	7070	6843	6164
35°	6696	6325	5702
40°	6315	5764	5188
45°	5953	5329	4690
50°	5511	4946	4183
55°	5098	4482	3747
60°	4670	4004	3356
65°	4110	3506	2972
70°	3386	3070	2525
75°	2692	2351	2464
80°	1808	1695	1582
85°	1127	1352	1575



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	293.6	4.7
10°-20°	805.8	13.0
20°-30°	1115.5	18.0
30°-40°	1189.5	19.2
40°-50°	1085.2	17.5
50°-60°	850.1	13.7
60°-70°	554.1	8.9
70°-80°	245.5	4.0
80°-90°	52.7	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°	2214.9	35.8
0°-40°	3404.4	55.0
0°-60°	5339.7	86.2
0°-90°	6192.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6192.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3154	3154	3154	3154	3154	
5°	3099	3096	3096	3092	3092	294
15°	2899	2899	2870	2840	2830	815
25°	2512	2498	2458	2370	2304	1153
35°	2038	2024	1925	1779	1736	1274
45°	1564	1532	1400	1284	1232	1205
55°	1087	1054	955	842	799	975
65°	645	609	551	562	467	636
75°	259	241	226	215	237	277
85°	36	40	44	47	51	51
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3154.1	3154.1	3154.1	3154.1	3154.1
2.5°	3132.2	3132.2	3132.2	3128.6	3128.6
5°	3099.4	3095.8	3095.8	3092.1	3092.1
7.5°	3073.9	3070.3	3066.6	3063.0	3055.7
10°	3037.4	3037.4	3033.8	3015.6	3011.9
12.5°	2979.1	2975.4	2960.9	2935.3	2928.0
15°	2898.9	2898.9	2869.7	2840.5	2829.6
17.5°	2811.4	2807.7	2771.3	2742.1	2727.5
20°	2716.6	2709.3	2672.8	2625.4	2599.9
22.5°	2610.8	2610.8	2567.1	2505.1	2479.5
25°	2512.4	2497.8	2457.7	2370.1	2304.5
27.5°	2399.3	2377.4	2333.7	2209.7	2133.1
30°	2275.3	2264.4	2202.4	2042.0	1983.6
32.5°	2158.7	2140.4	2074.8	1907.1	1859.7
35°	2038.3	2023.7	1925.3	1779.4	1735.7
37.5°	1918.0	1899.8	1775.8	1659.1	1604.4
40°	1797.7	1775.8	1640.9	1535.1	1476.8
42.5°	1684.6	1655.5	1524.2	1411.2	1345.5
45°	1564.3	1531.5	1400.2	1283.5	1232.5
47.5°	1444.0	1414.8	1294.5	1174.1	1115.8
50°	1316.3	1290.8	1181.4	1061.1	999.1
52.5°	1210.6	1170.5	1064.7	944.4	893.4
55°	1086.6	1053.8	955.4	842.3	798.6
57.5°	973.6	940.8	849.6	743.9	707.4
60°	867.8	820.4	743.9	652.7	623.5
62.5°	751.2	714.7	649.1	572.5	608.9
65°	645.4	608.9	550.6	561.5	466.7
67.5°	528.7	510.5	459.4	408.4	393.8
70°	430.3	408.4	390.2	335.5	320.9
72.5°	342.8	320.9	295.4	266.2	255.2
75°	258.9	240.7	226.1	215.1	237.0
77.5°	178.7	171.4	160.4	149.5	145.9
80°	116.7	113.0	109.4	105.7	102.1
82.5°	69.3	69.3	69.3	69.3	69.3
85°	36.5	40.1	43.8	47.4	51.0
87.5°	21.9	21.9	25.5	29.2	32.8
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)