

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: P546123

Luminaire Tested: **FMR-12-4-LD4-2HI-35-UNV-82-88-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: P546123
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-82-88-EDD
Description: 1X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

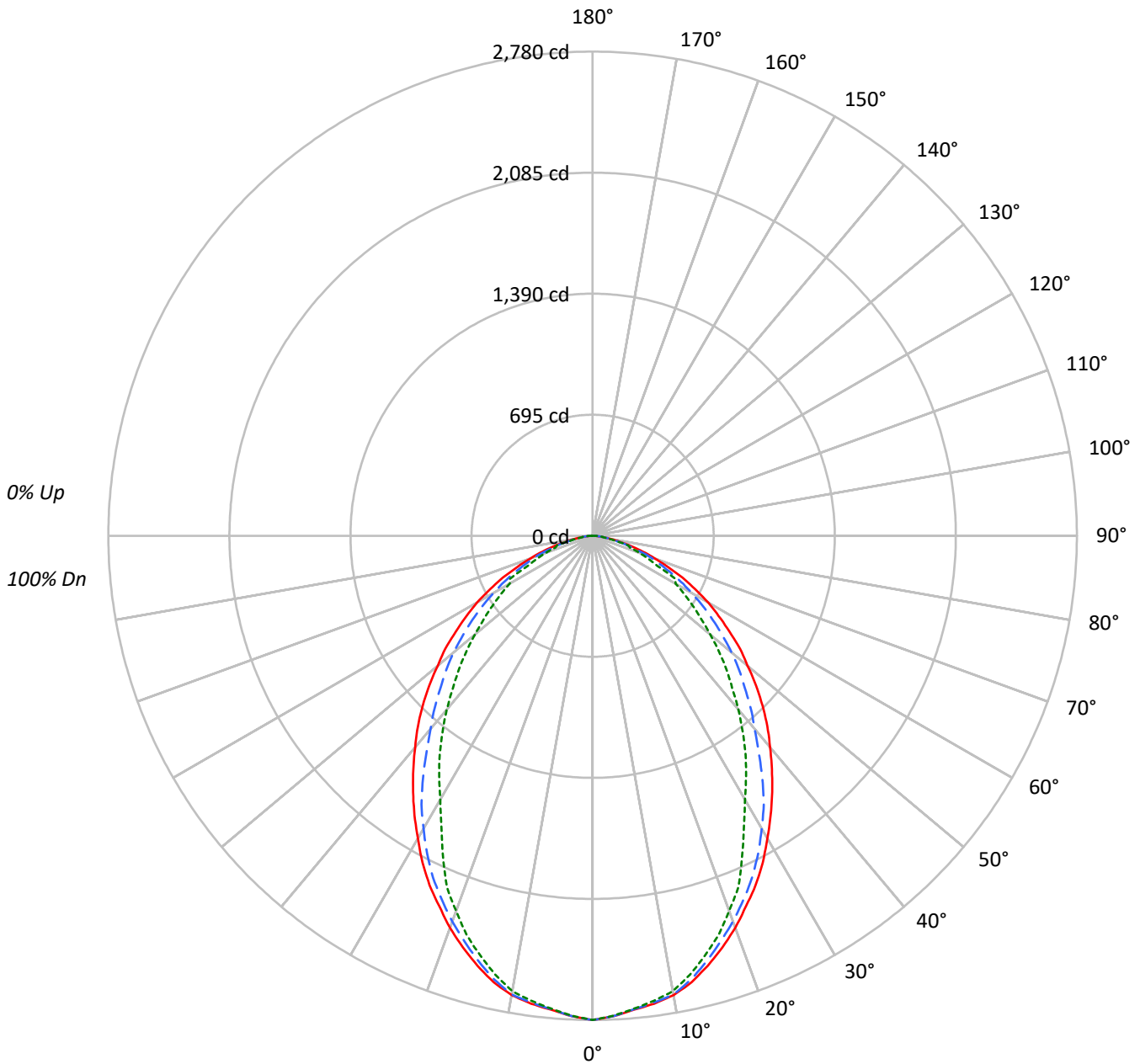
Lumens per Lamp: N/A
Luminaire Lumens: 5458.0 lumens
Efficiency: N/A
Efficacy: 63.2 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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									
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°	7481	7481	7481
5°	7380	7371	7363
10°	7316	7307	7254
15°	7119	7047	6949
20°	6857	6747	6563
25°	6575	6432	6031
30°	6232	6032	5433
35°	5902	5575	5026
40°	5566	5081	4573
45°	5248	4697	4134
50°	4858	4360	3687
55°	4494	3951	3302
60°	4117	3529	2958
65°	3622	3090	2620
70°	2984	2706	2225
75°	2373	2072	2172
80°	1595	1494	1395
85°	991	1192	1389



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	258.8	4.7
10°-20°	710.3	13.0
20°-30°	983.3	18.0
30°-40°	1048.5	19.2
40°-50°	956.5	17.5
50°-60°	749.4	13.7
60°-70°	488.4	8.9
70°-80°	216.4	4.0
80°-90°	46.5	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°	1952.4	35.8
0°-40°	3000.9	55.0
0°-60°	4706.8	86.2
0°-90°	5458.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5458.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2780	2780	2780	2780	2780	
5°	2732	2729	2729	2726	2726	259
15°	2555	2555	2530	2504	2494	718
25°	2214	2202	2166	2089	2031	1017
35°	1797	1784	1697	1568	1530	1123
45°	1379	1350	1234	1131	1086	1062
55°	958	929	842	742	704	859
65°	569	537	485	495	411	561
75°	228	212	199	190	209	245
85°	32	35	39	42	45	45
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2780.2	2780.2	2780.2	2780.2	2780.2
2.5°	2760.9	2760.9	2760.9	2757.7	2757.7
5°	2732.0	2728.8	2728.8	2725.6	2725.6
7.5°	2709.5	2706.3	2703.1	2699.9	2693.5
10°	2677.4	2677.4	2674.2	2658.1	2654.9
12.5°	2626.0	2622.7	2609.9	2587.4	2581.0
15°	2555.2	2555.2	2529.5	2503.8	2494.2
17.5°	2478.1	2474.9	2442.7	2417.0	2404.2
20°	2394.5	2388.1	2356.0	2314.2	2291.7
22.5°	2301.3	2301.3	2262.8	2208.1	2185.6
25°	2214.5	2201.7	2166.3	2089.2	2031.3
27.5°	2114.9	2095.6	2057.1	1947.8	1880.3
30°	2005.6	1996.0	1941.3	1799.9	1748.5
32.5°	1902.8	1886.7	1828.8	1681.0	1639.2
35°	1796.7	1783.8	1697.1	1568.5	1529.9
37.5°	1690.6	1674.6	1565.3	1462.4	1414.2
40°	1584.6	1565.3	1446.4	1353.2	1301.7
42.5°	1484.9	1459.2	1343.5	1243.9	1186.0
45°	1378.9	1349.9	1234.2	1131.4	1086.4
47.5°	1272.8	1247.1	1141.0	1035.0	983.5
50°	1160.3	1137.8	1041.4	935.3	880.7
52.5°	1067.1	1031.7	938.5	832.5	787.5
55°	957.8	928.9	842.1	742.5	703.9
57.5°	858.2	829.2	748.9	655.7	623.5
60°	765.0	723.2	655.7	575.3	549.6
62.5°	662.1	630.0	572.1	504.6	536.8
65°	568.9	536.8	485.3	495.0	411.4
67.5°	466.1	450.0	405.0	360.0	347.1
70°	379.3	360.0	343.9	295.7	282.8
72.5°	302.1	282.8	260.3	234.6	225.0
75°	228.2	212.1	199.3	189.6	208.9
77.5°	157.5	151.1	141.4	131.8	128.6
80°	102.9	99.6	96.4	93.2	90.0
82.5°	61.1	61.1	61.1	61.1	61.1
85°	32.1	35.4	38.6	41.8	45.0
87.5°	19.3	19.3	22.5	25.7	28.9
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)