

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: P546125

Luminaire Tested: **FMR-12-4-LD4-2HI-35-UNV-82-96-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: P546125
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-82-96-EDD
Description: 1X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

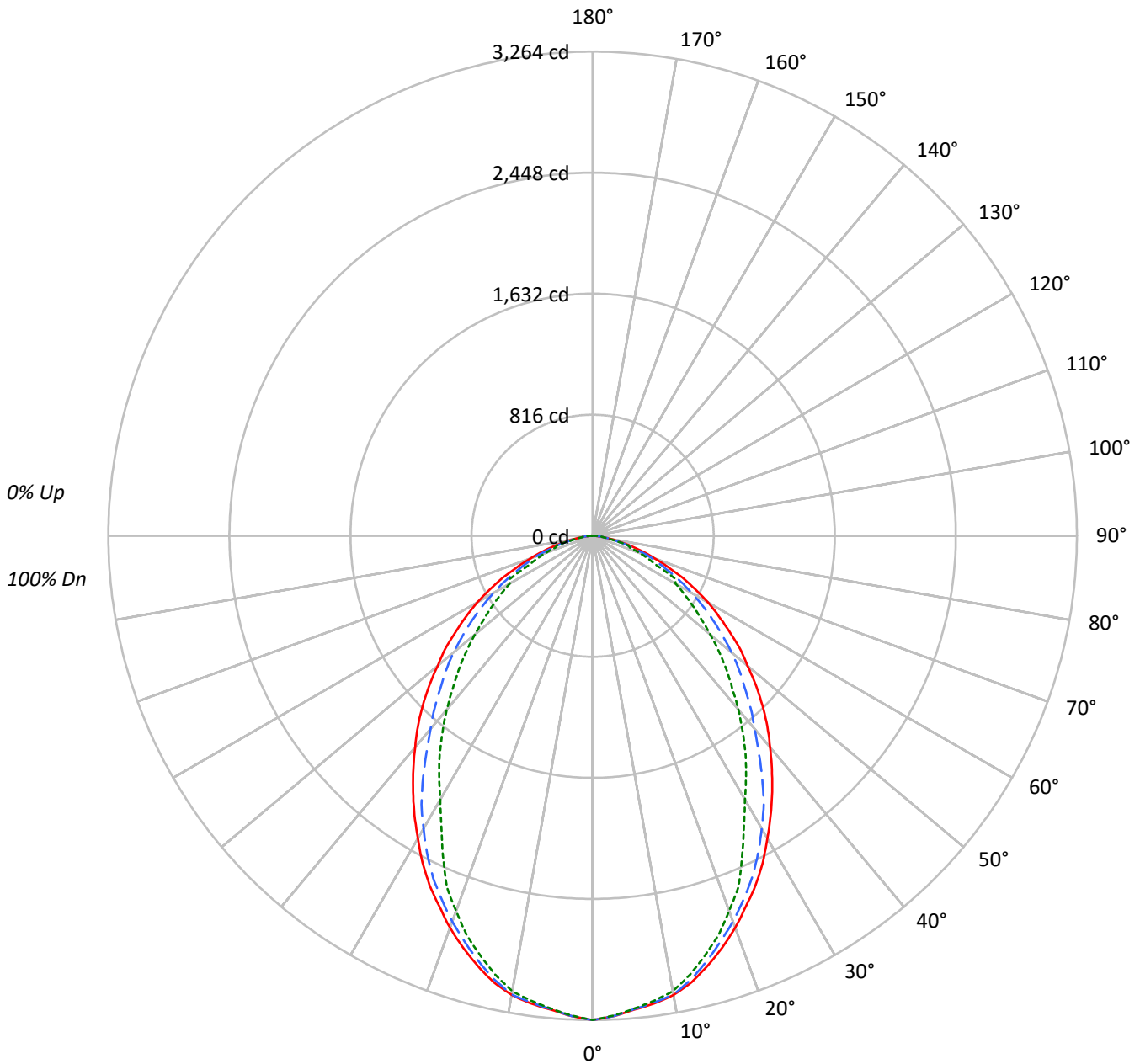
Lumens per Lamp: N/A
Luminaire Lumens: 6408.0 lumens
Efficiency: N/A
Efficacy: 74.2 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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°	8784	8784	8784
5°	8664	8654	8644
10°	8589	8579	8517
15°	8358	8274	8158
20°	8051	7921	7705
25°	7720	7552	7081
30°	7317	7082	6379
35°	6930	6546	5901
40°	6535	5965	5369
45°	6161	5515	4854
50°	5703	5118	4329
55°	5276	4639	3877
60°	4834	4143	3473
65°	4253	3628	3075
70°	3504	3177	2613
75°	2785	2433	2550
80°	1872	1754	1638
85°	1164	1399	1630



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	303.8	4.7
10°-20°	833.9	13.0
20°-30°	1154.5	18.0
30°-40°	1231.0	19.2
40°-50°	1123.0	17.5
50°-60°	879.8	13.7
60°-70°	573.4	8.9
70°-80°	254.1	4.0
80°-90°	54.5	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°	2292.2	35.8
0°-40°	3523.2	55.0
0°-60°	5526.0	86.2
0°-90°	6408.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6408.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3264	3264	3264	3264	3264	
5°	3208	3204	3204	3200	3200	304
15°	3000	3000	2970	2940	2928	843
25°	2600	2585	2543	2453	2385	1194
35°	2109	2094	1992	1842	1796	1319
45°	1619	1585	1449	1328	1276	1247
55°	1124	1091	989	872	826	1009
65°	668	630	570	581	483	658
75°	268	249	234	223	245	287
85°	38	42	45	49	53	52
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3264.1	3264.1	3264.1	3264.1	3264.1
2.5°	3241.5	3241.5	3241.5	3237.7	3237.7
5°	3207.5	3203.8	3203.8	3200.0	3200.0
7.5°	3181.1	3177.4	3173.6	3169.8	3162.3
10°	3143.4	3143.4	3139.6	3120.8	3117.0
12.5°	3083.0	3079.2	3064.1	3037.7	3030.2
15°	3000.0	3000.0	2969.8	2939.6	2928.3
17.5°	2909.4	2905.7	2867.9	2837.7	2822.6
20°	2811.3	2803.8	2766.0	2717.0	2690.6
22.5°	2701.9	2701.9	2656.6	2592.5	2566.0
25°	2600.0	2584.9	2543.4	2452.8	2384.9
27.5°	2483.0	2460.4	2415.1	2286.8	2207.5
30°	2354.7	2343.4	2279.2	2113.2	2052.8
32.5°	2234.0	2215.1	2147.2	1973.6	1924.5
35°	2109.4	2094.3	1992.5	1841.5	1796.2
37.5°	1984.9	1966.0	1837.7	1717.0	1660.4
40°	1860.4	1837.7	1698.1	1588.7	1528.3
42.5°	1743.4	1713.2	1577.4	1460.4	1392.5
45°	1618.9	1584.9	1449.1	1328.3	1275.5
47.5°	1494.3	1464.2	1339.6	1215.1	1154.7
50°	1362.3	1335.8	1222.6	1098.1	1034.0
52.5°	1252.8	1211.3	1101.9	977.4	924.5
55°	1124.5	1090.6	988.7	871.7	826.4
57.5°	1007.5	973.6	879.2	769.8	732.1
60°	898.1	849.1	769.8	675.5	645.3
62.5°	777.4	739.6	671.7	592.5	630.2
65°	667.9	630.2	569.8	581.1	483.0
67.5°	547.2	528.3	475.5	422.6	407.5
70°	445.3	422.6	403.8	347.2	332.1
72.5°	354.7	332.1	305.7	275.5	264.2
75°	267.9	249.1	234.0	222.6	245.3
77.5°	184.9	177.4	166.0	154.7	150.9
80°	120.8	117.0	113.2	109.4	105.7
82.5°	71.7	71.7	71.7	71.7	71.7
85°	37.7	41.5	45.3	49.1	52.8
87.5°	22.6	22.6	26.4	30.2	34.0
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)