

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: P546109

Luminaire Tested: **FMR-12-4-LD4-2HI-35-UNV-80-96-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: P546109
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-80-96-EDD
Description: 1X4 FMR TROFFER WITH .125 PRISMATIC ACRYLIC 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

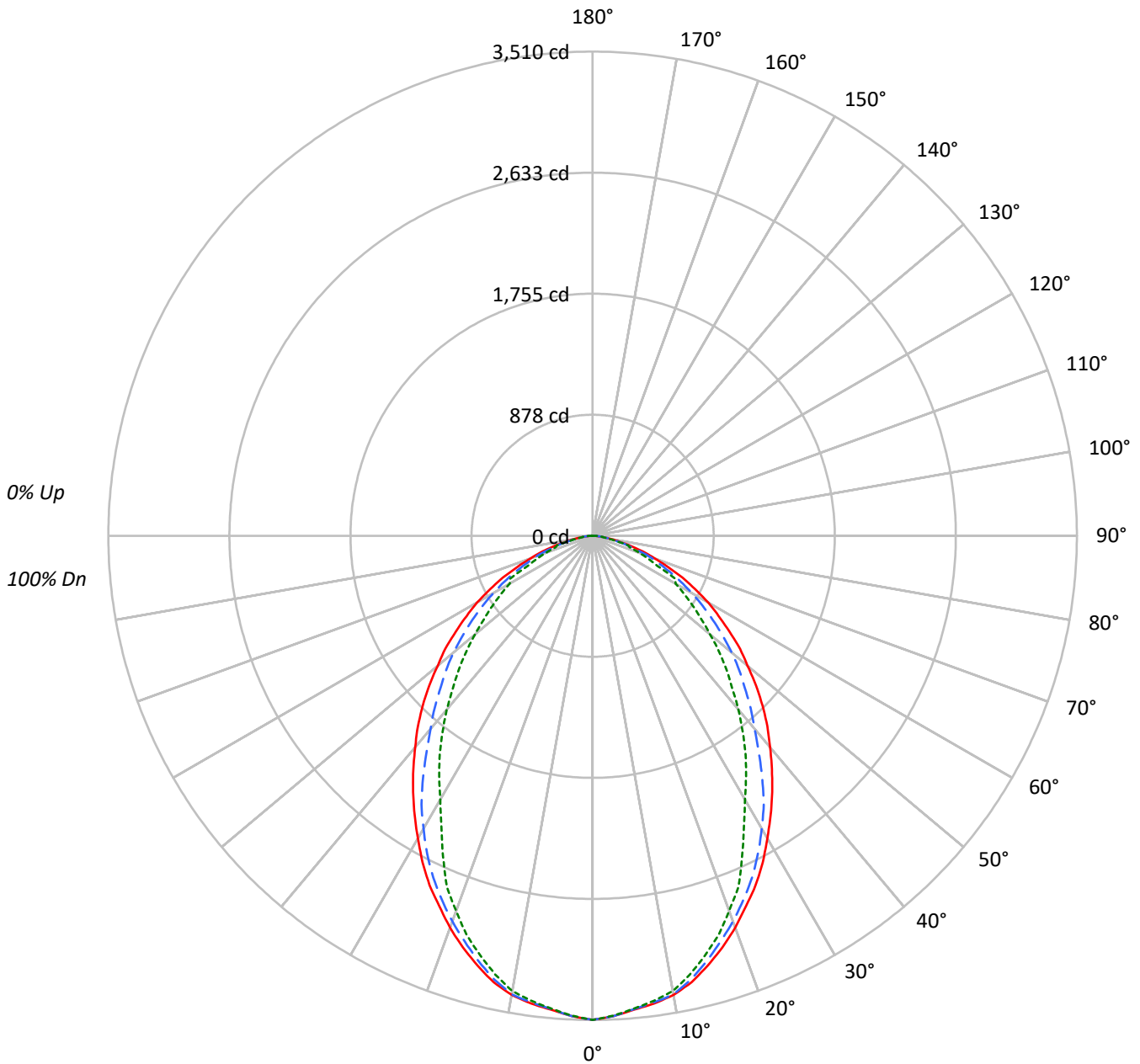
Lumens per Lamp: N/A
Luminaire Lumens: 6890.0 lumens
Efficiency: N/A
Efficacy: 79.7 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 86.4
Input Voltage (V): NR
Input Current (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°	9445	9445	9445
5°	9316	9305	9294
10°	9235	9224	9158
15°	8986	8896	8772
20°	8656	8517	8284
25°	8301	8120	7614
30°	7867	7615	6858
35°	7451	7038	6344
40°	7027	6414	5773
45°	6624	5930	5219
50°	6132	5503	4654
55°	5673	4987	4169
60°	5197	4455	3734
65°	4573	3901	3307
70°	3767	3415	2810
75°	2995	2616	2742
80°	2011	1886	1760
85°	1254	1504	1754



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	326.7	4.7
10°-20°	896.6	13.0
20°-30°	1241.3	18.0
30°-40°	1323.6	19.2
40°-50°	1207.5	17.5
50°-60°	946.0	13.7
60°-70°	616.5	8.9
70°-80°	273.2	4.0
80°-90°	58.6	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°	2464.6	35.8
0°-40°	3788.2	55.0
0°-60°	5941.7	86.2
0°-90°	6890.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6890.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3510	3510	3510	3510	3510	
5°	3449	3445	3445	3441	3441	327
15°	3226	3226	3193	3161	3149	907
25°	2796	2779	2735	2637	2564	1283
35°	2268	2252	2142	1980	1931	1418
45°	1741	1704	1558	1428	1371	1341
55°	1209	1173	1063	937	889	1084
65°	718	678	613	625	519	708
75°	288	268	252	239	264	309
85°	41	45	49	53	57	56
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3509.7	3509.7	3509.7	3509.7	3509.7
2.5°	3485.3	3485.3	3485.3	3481.3	3481.3
5°	3448.8	3444.8	3444.8	3440.7	3440.7
7.5°	3420.4	3416.4	3412.3	3408.2	3400.1
10°	3379.8	3379.8	3375.8	3355.5	3351.4
12.5°	3314.9	3310.9	3294.6	3266.2	3258.1
15°	3225.7	3225.7	3193.2	3160.7	3148.6
17.5°	3128.3	3124.2	3083.6	3051.2	3035.0
20°	3022.8	3014.7	2974.1	2921.3	2892.9
22.5°	2905.1	2905.1	2856.4	2787.5	2759.1
25°	2795.6	2779.3	2734.7	2637.3	2564.3
27.5°	2669.8	2645.4	2596.8	2458.8	2373.6
30°	2531.8	2519.7	2450.7	2272.2	2207.2
32.5°	2402.0	2381.7	2308.7	2122.0	2069.3
35°	2268.1	2251.9	2142.3	1980.0	1931.3
37.5°	2134.2	2113.9	1976.0	1846.1	1785.3
40°	2000.3	1976.0	1825.8	1708.2	1643.3
42.5°	1874.5	1842.1	1696.0	1570.2	1497.2
45°	1740.6	1704.1	1558.1	1428.2	1371.4
47.5°	1606.7	1574.3	1440.4	1306.5	1241.6
50°	1464.7	1436.3	1314.6	1180.7	1111.7
52.5°	1347.1	1302.4	1184.8	1050.9	994.1
55°	1209.1	1172.6	1063.0	937.3	888.6
57.5°	1083.3	1046.8	945.4	827.7	787.1
60°	965.7	912.9	827.7	726.3	693.8
62.5°	835.8	795.3	722.2	637.0	677.6
65°	718.2	677.6	612.7	624.8	519.4
67.5°	588.3	568.0	511.2	454.4	438.2
70°	478.8	454.4	434.1	373.3	357.1
72.5°	381.4	357.1	328.7	296.2	284.0
75°	288.1	267.8	251.6	239.4	263.7
77.5°	198.8	190.7	178.5	166.4	162.3
80°	129.8	125.8	121.7	117.7	113.6
82.5°	77.1	77.1	77.1	77.1	77.1
85°	40.6	44.6	48.7	52.7	56.8
87.5°	24.3	24.3	28.4	32.5	36.5
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)