

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: P547207

Luminaire Tested: **FMR-24-4-LD4-3STD-40-UNV-82-84-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: P547207
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-24-4-LD4-3STD-40-UNV-82-84-EDD
Description: 2X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

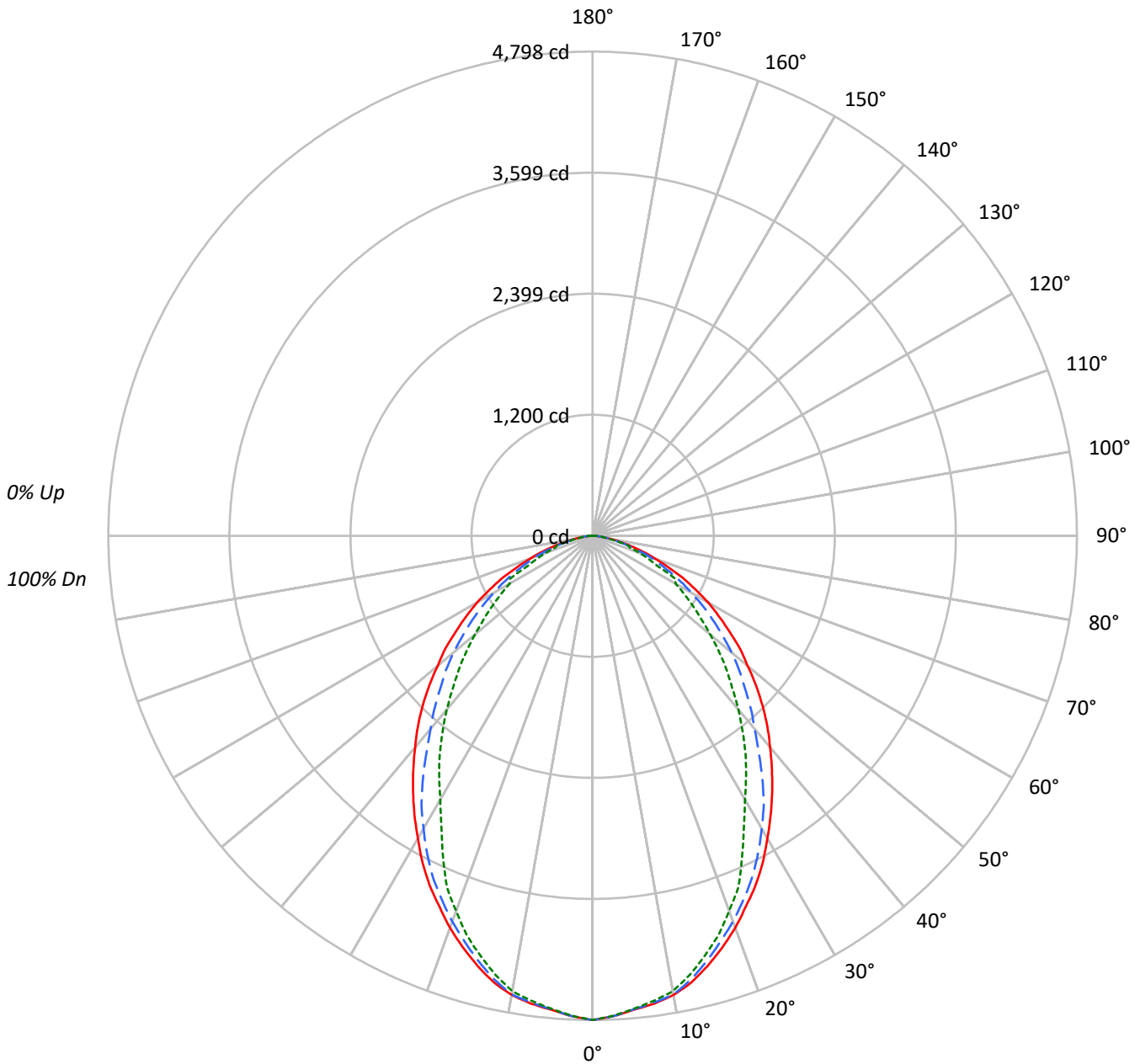
Lumens per Lamp: N/A
Luminaire Lumens: 9420.0 lumens
Efficiency: N/A
Efficacy: 94.3 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 99.9
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°	6456	6456	6456
5°	6368	6361	6353
10°	6313	6306	6260
15°	6143	6081	5996
20°	5917	5822	5663
25°	5674	5551	5205
30°	5378	5206	4688
35°	5093	4811	4337
40°	4803	4385	3946
45°	4528	4053	3568
50°	4192	3762	3182
55°	3878	3409	2850
60°	3553	3045	2553
65°	3126	2667	2261
70°	2575	2335	1921
75°	2048	1788	1875
80°	1375	1289	1203
85°	857	1028	1200



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	446.7	4.7
10°-20°	1225.8	13.0
20°-30°	1697.1	18.0
30°-40°	1809.6	19.2
40°-50°	1650.9	17.5
50°-60°	1293.3	13.7
60°-70°	842.9	8.9
70°-80°	373.5	4.0
80°-90°	80.2	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°	3369.6	35.8
0°-40°	5179.2	55.0
0°-60°	8123.4	86.2
0°-90°	9420.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9420.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4798	4798	4798	4798	4798	
5°	4715	4710	4710	4704	4704	448
15°	4410	4410	4366	4321	4305	1240
25°	3822	3800	3739	3606	3506	1755
35°	3101	3079	2929	2707	2640	1939
45°	2380	2330	2130	1953	1875	1833
55°	1653	1603	1453	1281	1215	1483
65°	982	926	838	854	710	968
75°	394	366	344	327	361	422
85°	56	61	67	72	78	77
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4798.4	4798.4	4798.4	4798.4	4798.4
2.5°	4765.1	4765.1	4765.1	4759.6	4759.6
5°	4715.2	4709.7	4709.7	4704.1	4704.1
7.5°	4676.4	4670.8	4665.3	4659.7	4648.6
10°	4620.9	4620.9	4615.4	4587.6	4582.1
12.5°	4532.2	4526.6	4504.4	4465.6	4454.5
15°	4410.1	4410.1	4365.7	4321.4	4304.7
17.5°	4277.0	4271.4	4216.0	4171.6	4149.4
20°	4132.7	4121.7	4066.2	3994.1	3955.2
22.5°	3971.9	3971.9	3905.3	3811.0	3772.2
25°	3822.1	3799.9	3738.9	3605.8	3505.9
27.5°	3650.1	3616.8	3550.3	3361.7	3245.2
30°	3461.5	3444.9	3350.6	3106.5	3017.7
32.5°	3284.0	3256.3	3156.4	2901.2	2829.1
35°	3100.9	3078.8	2929.0	2707.1	2640.5
37.5°	2917.9	2890.1	2701.5	2524.0	2440.8
40°	2734.8	2701.5	2496.3	2335.4	2246.7
42.5°	2562.9	2518.5	2318.8	2146.8	2047.0
45°	2379.8	2329.9	2130.2	1952.7	1875.0
47.5°	2196.7	2152.4	1969.3	1786.2	1697.5
50°	2002.6	1963.7	1797.3	1614.3	1520.0
52.5°	1841.7	1780.7	1619.8	1436.8	1359.1
55°	1653.1	1603.2	1453.4	1281.4	1214.9
57.5°	1481.1	1431.2	1292.5	1131.7	1076.2
60°	1320.3	1248.1	1131.7	993.0	948.6
62.5°	1142.7	1087.3	987.4	870.9	926.4
65°	981.9	926.4	837.6	854.3	710.1
67.5°	804.4	776.6	699.0	621.3	599.1
70°	654.6	621.3	593.6	510.4	488.2
72.5°	521.4	488.2	449.3	405.0	388.3
75°	393.9	366.1	343.9	327.3	360.6
77.5°	271.8	260.7	244.1	227.4	221.9
80°	177.5	172.0	166.4	160.9	155.3
82.5°	105.4	105.4	105.4	105.4	105.4
85°	55.5	61.0	66.6	72.1	77.7
87.5°	33.3	33.3	38.8	44.4	49.9
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)