

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: P546745

Luminaire Tested: **FMR-24-4-LD4-2HI-50-UNV-80-86-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: P546745
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-LD4-2HI-50-UNV-80-86-EDD
Description: 2X4 FMR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

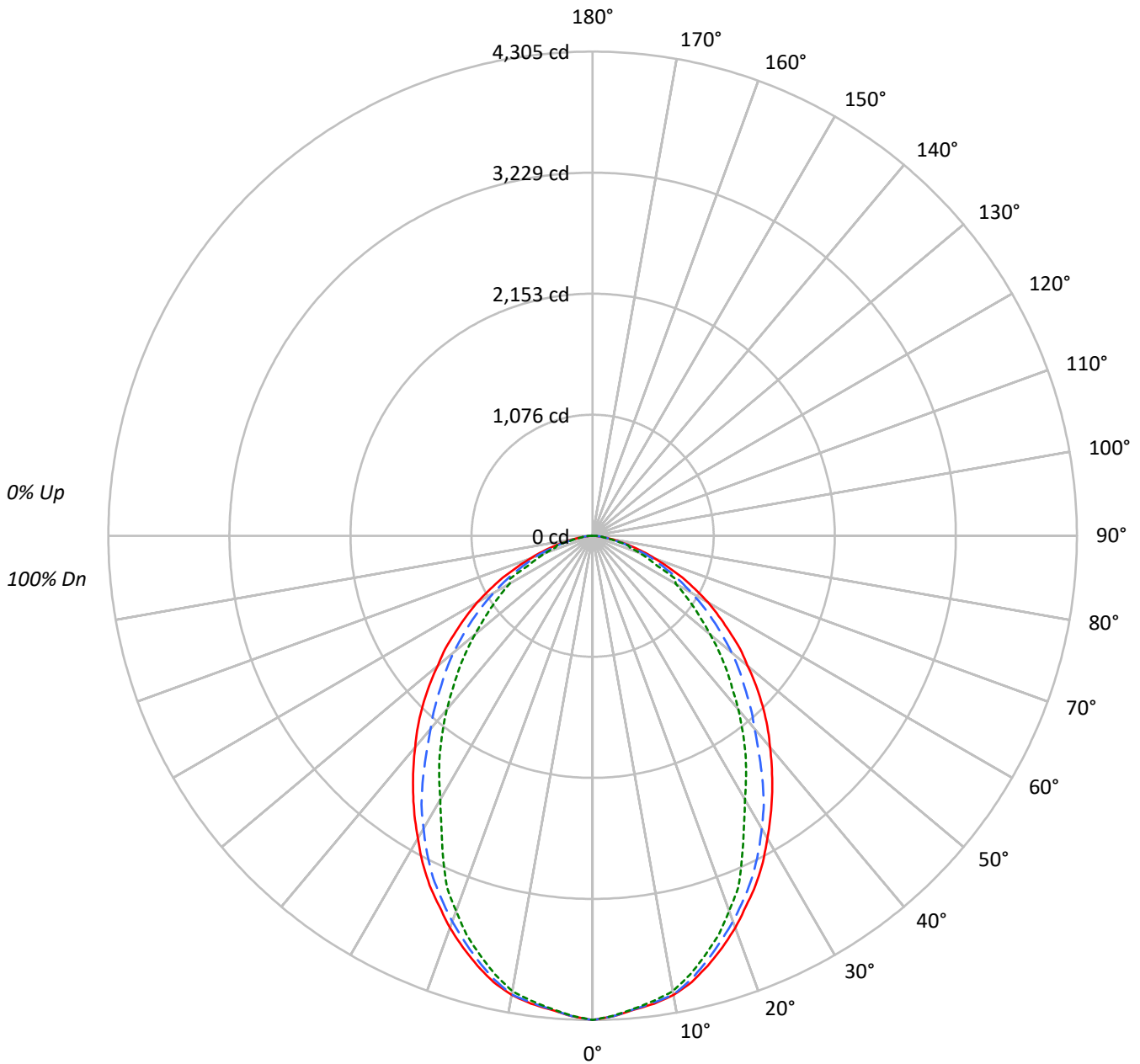
Lumens per Lamp: N/A
Luminaire Lumens: 8452.0 lumens
Efficiency: N/A
Efficacy: 97.8 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 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°	5793	5793	5793
5°	5714	5707	5701
10°	5665	5658	5617
15°	5512	5456	5380
20°	5309	5224	5081
25°	5091	4980	4670
30°	4825	4671	4207
35°	4570	4317	3892
40°	4310	3934	3541
45°	4063	3637	3201
50°	3761	3376	2855
55°	3479	3059	2557
60°	3188	2732	2290
65°	2805	2393	2028
70°	2310	2095	1723
75°	1837	1604	1682
80°	1234	1157	1080
85°	769	922	1076



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	400.8	4.7
10°-20°	1099.9	13.0
20°-30°	1522.7	18.0
30°-40°	1623.7	19.2
40°-50°	1481.2	17.5
50°-60°	1160.4	13.7
60°-70°	756.3	8.9
70°-80°	335.1	4.0
80°-90°	71.9	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°	3023.3	35.8
0°-40°	4647.0	55.0
0°-60°	7288.7	86.2
0°-90°	8452.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8452.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4305	4305	4305	4305	4305	
5°	4231	4226	4226	4221	4221	402
15°	3957	3957	3917	3877	3862	1112
25°	3429	3409	3355	3235	3146	1574
35°	2782	2762	2628	2429	2369	1739
45°	2135	2090	1911	1752	1682	1645
55°	1483	1438	1304	1150	1090	1330
65°	881	831	752	766	637	868
75°	353	328	309	294	324	379
85°	50	55	60	65	70	69
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4305.3	4305.3	4305.3	4305.3	4305.3
2.5°	4275.5	4275.5	4275.5	4270.5	4270.5
5°	4230.7	4225.7	4225.7	4220.7	4220.7
7.5°	4195.8	4190.9	4185.9	4180.9	4170.9
10°	4146.1	4146.1	4141.1	4116.2	4111.2
12.5°	4066.4	4061.4	4041.5	4006.7	3996.7
15°	3956.9	3956.9	3917.1	3877.3	3862.4
17.5°	3837.5	3832.5	3782.7	3742.9	3723.0
20°	3708.1	3698.1	3648.3	3583.6	3548.8
22.5°	3563.7	3563.7	3504.0	3419.4	3384.5
25°	3429.3	3409.4	3354.7	3235.2	3145.6
27.5°	3275.0	3245.2	3185.5	3016.2	2911.7
30°	3105.8	3090.9	3006.3	2787.3	2707.6
32.5°	2946.5	2921.7	2832.1	2603.1	2538.4
35°	2782.3	2762.4	2628.0	2428.9	2369.2
37.5°	2618.0	2593.2	2423.9	2264.7	2190.0
40°	2453.8	2423.9	2239.8	2095.4	2015.8
42.5°	2299.5	2259.7	2080.5	1926.2	1836.6
45°	2135.2	2090.5	1911.3	1752.0	1682.3
47.5°	1971.0	1931.2	1766.9	1602.7	1523.0
50°	1796.8	1762.0	1612.6	1448.4	1363.8
52.5°	1652.5	1597.7	1453.4	1289.1	1219.4
55°	1483.2	1438.4	1304.0	1149.7	1090.0
57.5°	1328.9	1284.1	1159.7	1015.4	965.6
60°	1184.6	1119.9	1015.4	890.9	851.1
62.5°	1025.3	975.5	886.0	781.4	831.2
65°	881.0	831.2	751.6	766.5	637.1
67.5°	721.7	696.8	627.1	557.5	537.5
70°	587.3	557.5	532.6	457.9	438.0
72.5°	467.9	438.0	403.2	363.3	348.4
75°	353.4	328.5	308.6	293.7	323.5
77.5°	243.9	233.9	219.0	204.1	199.1
80°	159.3	154.3	149.3	144.3	139.4
82.5°	94.6	94.6	94.6	94.6	94.6
85°	49.8	54.7	59.7	64.7	69.7
87.5°	29.9	29.9	34.8	39.8	44.8
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)