

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: P547089

Luminaire Tested: **FMR-24-4-LD4-3LO-35-UNV-93-86-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: P547089
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-LD4-3LO-35-UNV-93-86-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

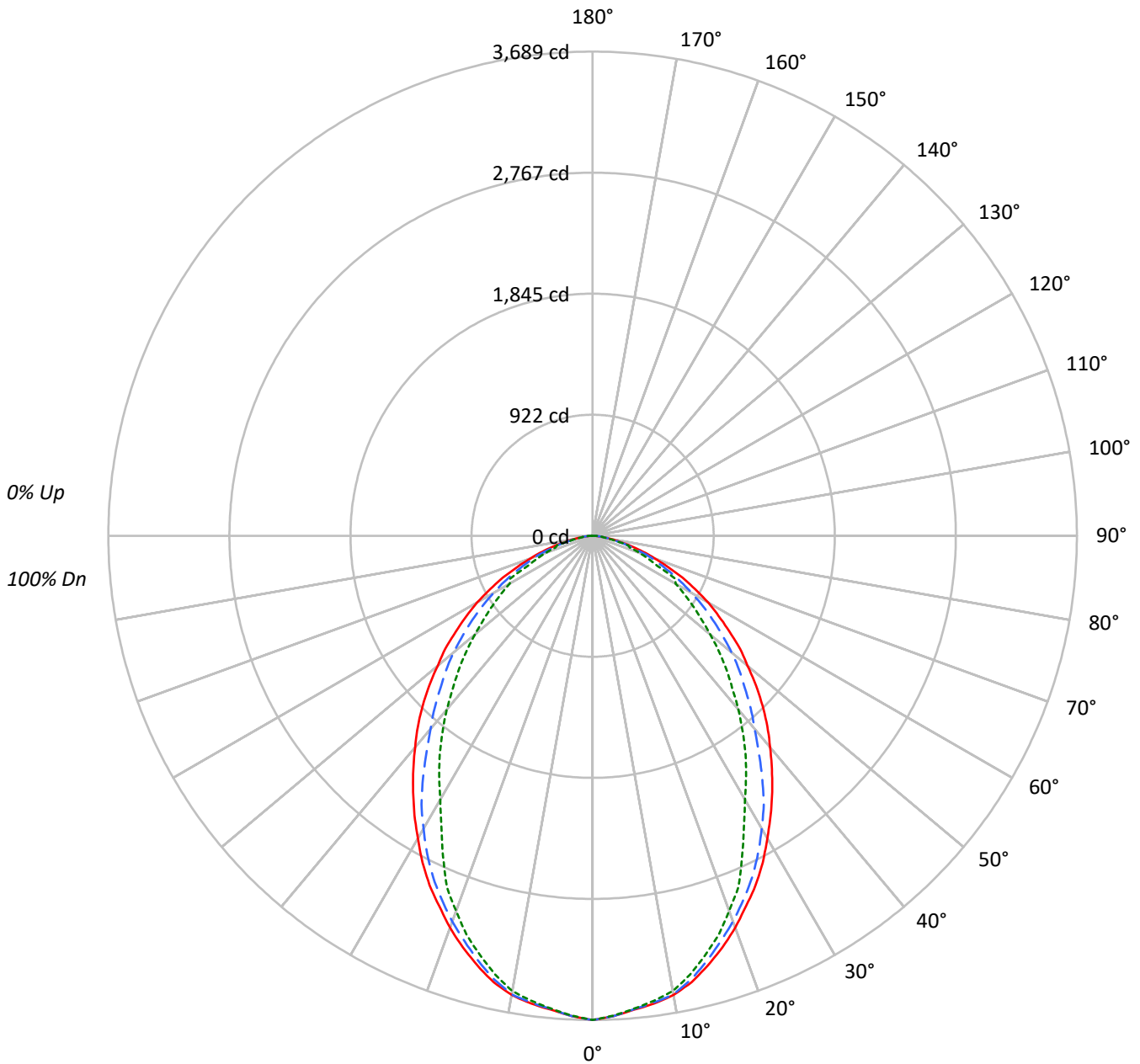
Lumens per Lamp: N/A
Luminaire Lumens: 7242.0 lumens
Efficiency: N/A
Efficacy: 103.2 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 70.2
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°	4964	4964	4964
5°	4896	4890	4885
10°	4854	4848	4813
15°	4723	4675	4610
20°	4549	4476	4354
25°	4362	4267	4001
30°	4135	4002	3604
35°	3916	3699	3334
40°	3693	3371	3034
45°	3481	3116	2743
50°	3223	2892	2446
55°	2981	2621	2191
60°	2731	2341	1963
65°	2403	2050	1738
70°	1980	1795	1476
75°	1574	1375	1441
80°	1058	991	925
85°	658	790	922



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	343.4	4.7
10°-20°	942.4	13.0
20°-30°	1304.7	18.0
30°-40°	1391.2	19.2
40°-50°	1269.2	17.5
50°-60°	994.3	13.7
60°-70°	648.0	8.9
70°-80°	287.1	4.0
80°-90°	61.6	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°	2590.5	35.8
0°-40°	3981.7	55.0
0°-60°	6245.2	86.2
0°-90°	7242.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7242.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3689	3689	3689	3689	3689	
5°	3625	3621	3621	3616	3616	344
15°	3390	3390	3356	3322	3309	953
25°	2938	2921	2874	2772	2695	1349
35°	2384	2367	2252	2081	2030	1490
45°	1830	1791	1638	1501	1442	1409
55°	1271	1232	1117	985	934	1140
65°	755	712	644	657	546	744
75°	303	282	264	252	277	325
85°	43	47	51	55	60	59
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3689.0	3689.0	3689.0	3689.0	3689.0
2.5°	3663.4	3663.4	3663.4	3659.1	3659.1
5°	3625.0	3620.7	3620.7	3616.5	3616.5
7.5°	3595.2	3590.9	3586.6	3582.4	3573.8
10°	3552.5	3552.5	3548.2	3526.9	3522.7
12.5°	3484.3	3480.0	3462.9	3433.1	3424.6
15°	3390.4	3390.4	3356.3	3322.2	3309.4
17.5°	3288.1	3283.8	3241.2	3207.1	3190.0
20°	3177.2	3168.7	3126.0	3070.6	3040.7
22.5°	3053.5	3053.5	3002.4	2929.9	2900.0
25°	2938.4	2921.3	2874.4	2772.1	2695.3
27.5°	2806.2	2780.6	2729.4	2584.4	2494.9
30°	2661.2	2648.4	2575.9	2388.2	2320.0
32.5°	2524.7	2503.4	2426.6	2230.4	2175.0
35°	2384.0	2366.9	2251.8	2081.2	2030.0
37.5°	2243.2	2221.9	2076.9	1940.4	1876.5
40°	2102.5	2076.9	1919.1	1795.4	1727.2
42.5°	1970.3	1936.2	1782.7	1650.4	1573.7
45°	1829.6	1791.2	1637.7	1501.2	1441.5
47.5°	1688.8	1654.7	1514.0	1373.2	1305.0
50°	1539.6	1509.7	1381.8	1241.0	1168.5
52.5°	1415.9	1369.0	1245.3	1104.6	1044.9
55°	1270.9	1232.5	1117.4	985.1	934.0
57.5°	1138.7	1100.3	993.7	870.0	827.4
60°	1015.0	959.6	870.0	763.4	729.3
62.5°	878.5	835.9	759.1	669.6	712.2
65°	754.9	712.2	644.0	656.8	545.9
67.5°	618.4	597.1	537.4	477.6	460.6
70°	503.2	477.6	456.3	392.4	375.3
72.5°	400.9	375.3	345.4	311.3	298.5
75°	302.8	281.5	264.4	251.6	277.2
77.5°	209.0	200.4	187.6	174.9	170.6
80°	136.5	132.2	127.9	123.7	119.4
82.5°	81.0	81.0	81.0	81.0	81.0
85°	42.6	46.9	51.2	55.4	59.7
87.5°	25.6	25.6	29.9	34.1	38.4
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)