

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: P546961

Luminaire Tested: **FMR-24-4-LD4-2STD-50-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: P546961
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-LD4-2STD-50-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 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

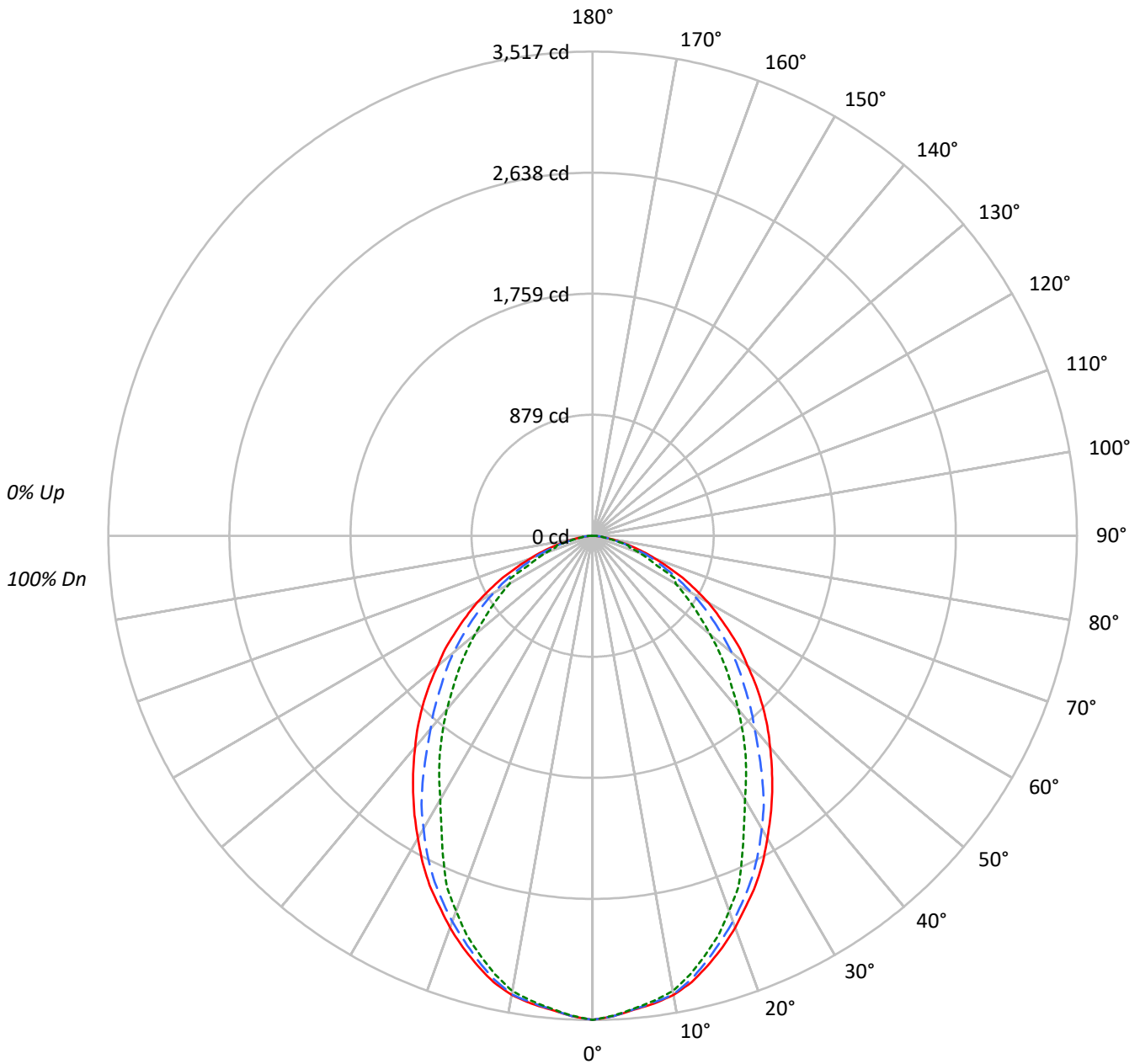
Lumens per Lamp: N/A
Luminaire Lumens: 6904.0 lumens
Efficiency: N/A
Efficacy: 103.7 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 66.6
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°	4732	4732	4732
5°	4668	4662	4657
10°	4627	4621	4588
15°	4502	4457	4395
20°	4337	4267	4151
25°	4159	4068	3815
30°	3942	3815	3436
35°	3733	3526	3179
40°	3521	3214	2892
45°	3319	2971	2615
50°	3072	2757	2332
55°	2842	2499	2089
60°	2604	2232	1871
65°	2291	1954	1657
70°	1887	1711	1408
75°	1501	1311	1374
80°	1008	945	882
85°	628	753	878



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	327.4	4.7
10°-20°	898.4	13.0
20°-30°	1243.8	18.0
30°-40°	1326.3	19.2
40°-50°	1209.9	17.5
50°-60°	947.9	13.7
60°-70°	617.8	8.9
70°-80°	273.7	4.0
80°-90°	58.8	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°	2469.6	35.8
0°-40°	3795.9	55.0
0°-60°	5953.7	86.2
0°-90°	6904.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6904.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3517	3517	3517	3517	3517	
5°	3456	3452	3452	3448	3448	328
15°	3232	3232	3200	3167	3155	909
25°	2801	2785	2740	2643	2570	1286
35°	2273	2256	2147	1984	1935	1421
45°	1744	1708	1561	1431	1374	1344
55°	1212	1175	1065	939	890	1087
65°	720	679	614	626	520	709
75°	289	268	252	240	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°	3516.8	3516.8	3516.8	3516.8	3516.8
2.5°	3492.4	3492.4	3492.4	3488.3	3488.3
5°	3455.8	3451.8	3451.8	3447.7	3447.7
7.5°	3427.4	3423.3	3419.2	3415.2	3407.0
10°	3386.7	3386.7	3382.6	3362.3	3358.2
12.5°	3321.7	3317.6	3301.3	3272.9	3264.7
15°	3232.2	3232.2	3199.7	3167.2	3155.0
17.5°	3134.6	3130.6	3089.9	3057.4	3041.1
20°	3028.9	3020.8	2980.1	2927.3	2898.8
22.5°	2911.0	2911.0	2862.2	2793.1	2764.7
25°	2801.2	2785.0	2740.3	2642.7	2569.5
27.5°	2675.2	2650.8	2602.0	2463.8	2378.4
30°	2537.0	2524.8	2455.7	2276.8	2211.7
32.5°	2406.9	2386.5	2313.4	2126.3	2073.5
35°	2272.7	2256.4	2146.7	1984.0	1935.3
37.5°	2138.5	2118.2	1980.0	1849.9	1788.9
40°	2004.4	1980.0	1829.6	1711.6	1646.6
42.5°	1878.3	1845.8	1699.5	1573.4	1500.2
45°	1744.2	1707.6	1561.2	1431.1	1374.2
47.5°	1610.0	1577.5	1443.3	1309.1	1244.1
50°	1467.7	1439.2	1317.3	1183.1	1114.0
52.5°	1349.8	1305.1	1187.2	1053.0	996.1
55°	1211.6	1175.0	1065.2	939.2	890.4
57.5°	1085.5	1048.9	947.3	829.4	788.7
60°	967.6	914.8	829.4	727.8	695.2
62.5°	837.5	796.9	723.7	638.3	679.0
65°	719.6	679.0	613.9	626.1	520.4
67.5°	589.5	569.2	512.3	455.4	439.1
70°	479.7	455.4	435.0	374.0	357.8
72.5°	382.2	357.8	329.3	296.8	284.6
75°	288.7	268.3	252.1	239.9	264.3
77.5°	199.2	191.1	178.9	166.7	162.6
80°	130.1	126.0	122.0	117.9	113.8
82.5°	77.2	77.2	77.2	77.2	77.2
85°	40.7	44.7	48.8	52.9	56.9
87.5°	24.4	24.4	28.5	32.5	36.6
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)