

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: P547026

Luminaire Tested: **FMR-24-4-LD4-3HI-40-UNV-93-87-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: P547026
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-LD4-3HI-40-UNV-93-87-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

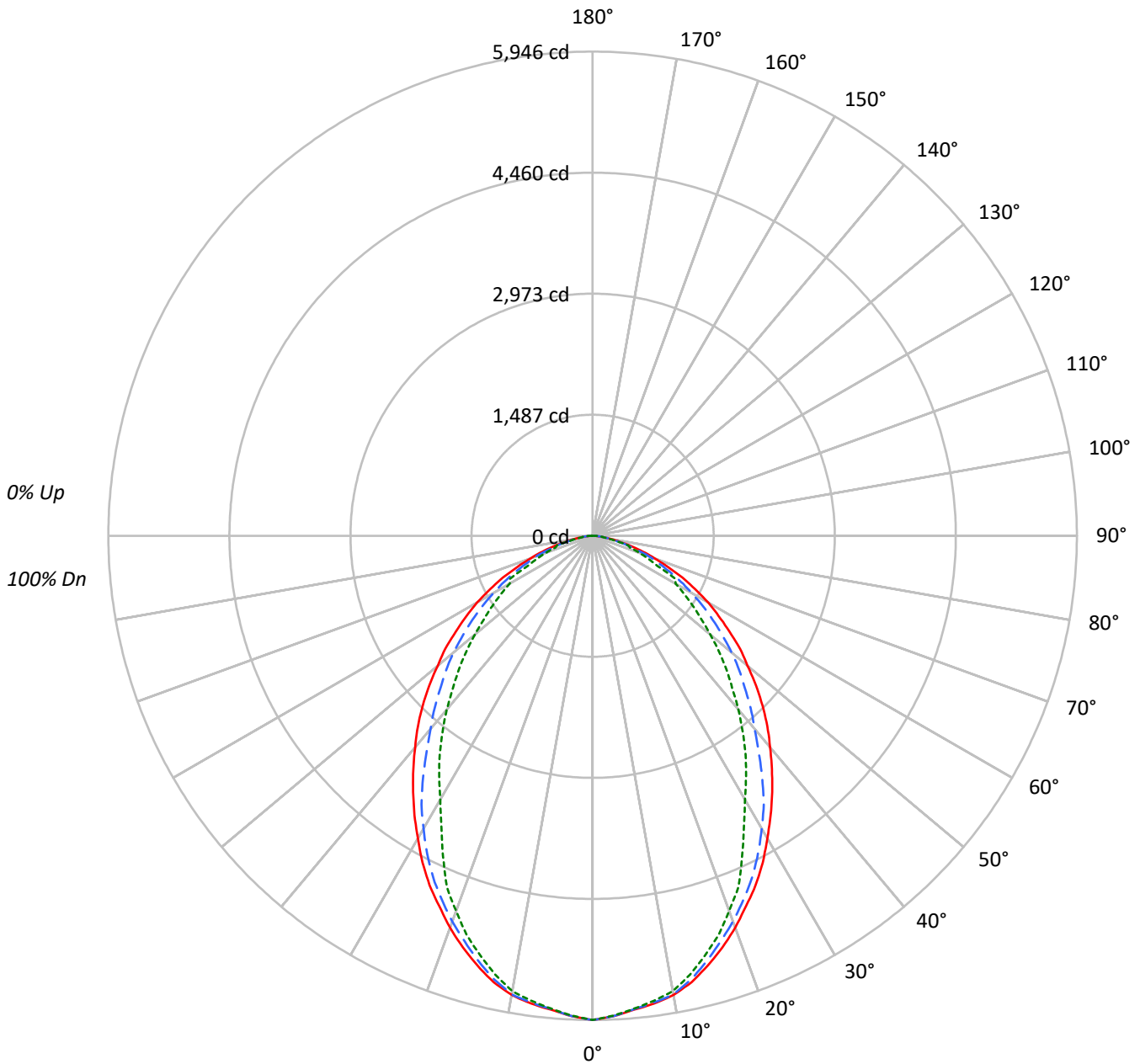
Lumens per Lamp: N/A
Luminaire Lumens: 11673.0 lumens
Efficiency: N/A
Efficacy: 90.1 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 129.6
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°	8000	8000	8000
5°	7892	7882	7873
10°	7823	7814	7758
15°	7612	7536	7430
20°	7333	7215	7018
25°	7031	6878	6450
30°	6664	6451	5810
35°	6312	5962	5375
40°	5952	5433	4890
45°	5611	5023	4421
50°	5194	4662	3943
55°	4805	4225	3531
60°	4402	3774	3163
65°	3874	3305	2801
70°	3191	2893	2380
75°	2537	2216	2323
80°	1705	1598	1492
85°	1061	1274	1485



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	553.5	4.7
10°-20°	1519.0	13.0
20°-30°	2103.0	18.0
30°-40°	2242.4	19.2
40°-50°	2045.7	17.5
50°-60°	1602.7	13.7
60°-70°	1044.5	8.9
70°-80°	462.8	4.0
80°-90°	99.4	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°	4175.5	35.8
0°-40°	6417.9	55.0
0°-60°	10066.3	86.2
0°-90°	11673.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	11673.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5946	5946	5946	5946	5946	
5°	5843	5836	5836	5829	5829	555
15°	5465	5465	5410	5355	5334	1536
25°	4736	4709	4633	4468	4344	2174
35°	3843	3815	3630	3354	3272	2402
45°	2949	2887	2640	2420	2323	2272
55°	2048	1987	1801	1588	1505	1837
65°	1217	1148	1038	1059	880	1199
75°	488	454	426	406	447	523
85°	69	76	82	89	96	95
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	5946.1	5946.1	5946.1	5946.1	5946.1
2.5°	5904.8	5904.8	5904.8	5898.0	5898.0
5°	5843.0	5836.1	5836.1	5829.2	5829.2
7.5°	5794.8	5788.0	5781.1	5774.2	5760.5
10°	5726.1	5726.1	5719.2	5684.9	5678.0
12.5°	5616.1	5609.2	5581.7	5533.6	5519.9
15°	5464.9	5464.9	5409.9	5354.9	5334.3
17.5°	5299.9	5293.0	5224.3	5169.3	5141.8
20°	5121.2	5107.4	5038.7	4949.3	4901.2
22.5°	4921.8	4921.8	4839.3	4722.5	4674.4
25°	4736.2	4708.7	4633.1	4468.1	4344.4
27.5°	4523.1	4481.9	4399.4	4165.7	4021.3
30°	4289.4	4268.8	4151.9	3849.5	3739.5
32.5°	4069.4	4035.1	3911.3	3595.1	3505.8
35°	3842.6	3815.1	3629.5	3354.5	3272.1
37.5°	3615.8	3581.4	3347.7	3127.7	3024.6
40°	3388.9	3347.7	3093.3	2894.0	2784.0
42.5°	3175.8	3120.8	2873.4	2660.3	2536.5
45°	2949.0	2887.1	2639.6	2419.7	2323.4
47.5°	2722.1	2667.1	2440.3	2213.5	2103.5
50°	2481.5	2433.4	2227.2	2000.4	1883.5
52.5°	2282.2	2206.6	2007.2	1780.4	1684.1
55°	2048.5	1986.6	1801.0	1587.9	1505.4
57.5°	1835.4	1773.5	1601.7	1402.3	1333.6
60°	1636.0	1546.7	1402.3	1230.5	1175.5
62.5°	1416.1	1347.3	1223.6	1079.2	1148.0
65°	1216.7	1148.0	1038.0	1058.6	879.9
67.5°	996.7	962.4	866.1	769.9	742.4
70°	811.1	769.9	735.5	632.4	604.9
72.5°	646.2	604.9	556.8	501.8	481.2
75°	488.1	453.7	426.2	405.6	446.8
77.5°	336.8	323.1	302.5	281.8	275.0
80°	220.0	213.1	206.2	199.3	192.5
82.5°	130.6	130.6	130.6	130.6	130.6
85°	68.7	75.6	82.5	89.4	96.2
87.5°	41.2	41.2	48.1	55.0	61.9
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)