

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: P547473

Luminaire Tested: **FMR-24-4-LD4-4STD-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: P547473
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-LD4-4STD-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

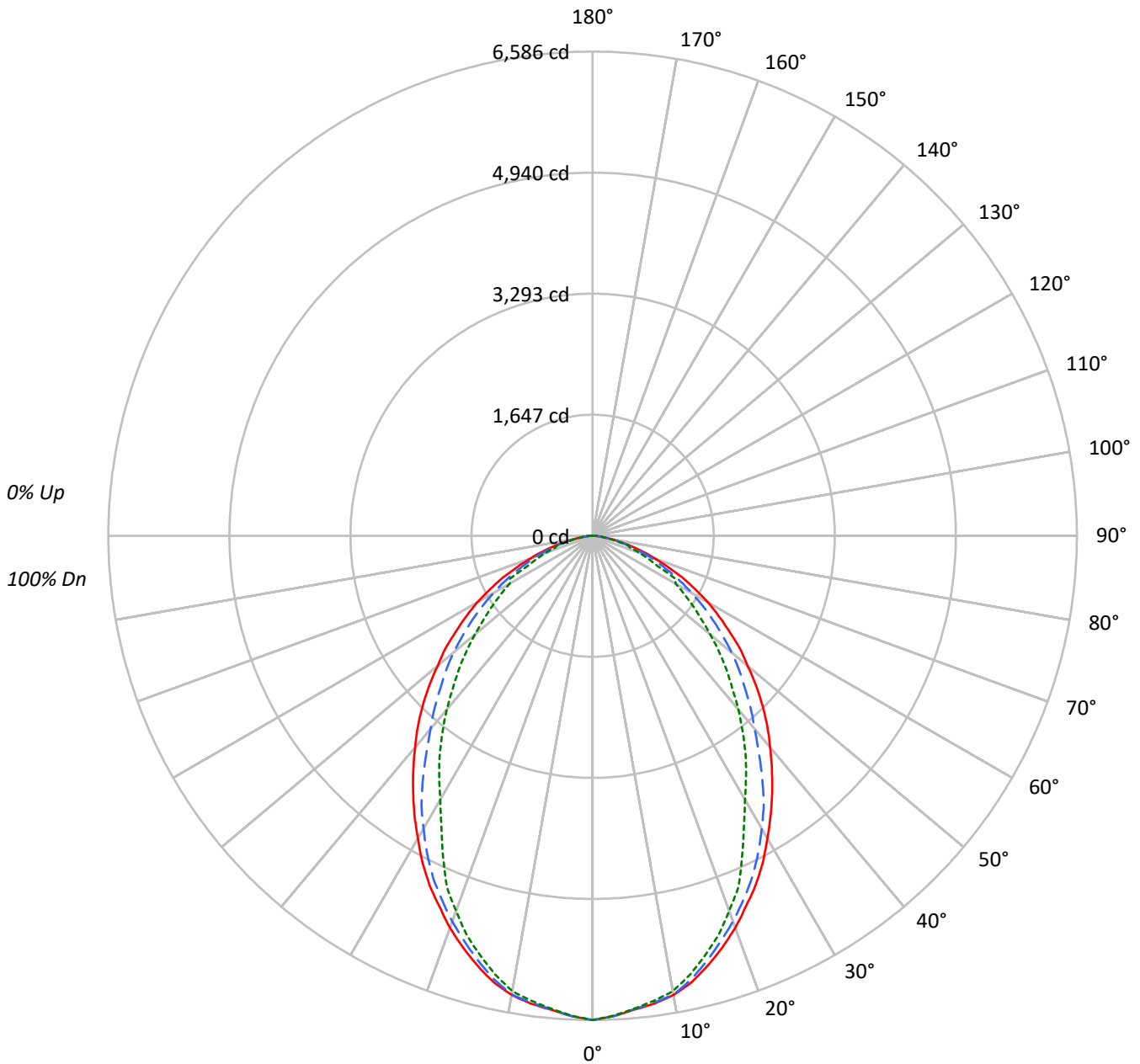
Lumens per Lamp: N/A
Luminaire Lumens: 12930.0 lumens
Efficiency: N/A
Efficacy: 97.1 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 133.2
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°	8862	8862	8862
5°	8742	8731	8721
10°	8666	8655	8593
15°	8432	8347	8231
20°	8122	7992	7773
25°	7789	7619	7144
30°	7382	7145	6435
35°	6991	6604	5953
40°	6593	6018	5416
45°	6216	5564	4897
50°	5754	5164	4367
55°	5323	4680	3912
60°	4877	4180	3504
65°	4291	3661	3103
70°	3535	3205	2636
75°	2810	2454	2573
80°	1888	1770	1652
85°	1175	1411	1646



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	613.1	4.7
10°-20°	1682.6	13.0
20°-30°	2329.5	18.0
30°-40°	2483.9	19.2
40°-50°	2266.0	17.5
50°-60°	1775.2	13.7
60°-70°	1157.0	8.9
70°-80°	512.6	4.0
80°-90°	110.1	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°	4625.2	35.8
0°-40°	7109.1	55.0
0°-60°	11150.3	86.2
0°-90°	12930.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	12930.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	6586	6586	6586	6586	6586	
5°	6472	6464	6464	6457	6457	614
15°	6053	6053	5992	5932	5909	1702
25°	5246	5216	5132	4949	4812	2409
35°	4256	4226	4020	3716	3624	2661
45°	3266	3198	2924	2680	2574	2516
55°	2269	2200	1995	1759	1668	2035
65°	1348	1272	1150	1173	975	1328
75°	541	502	472	449	495	579
85°	76	84	91	99	107	106
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	6586.4	6586.4	6586.4	6586.4	6586.4
2.5°	6540.7	6540.7	6540.7	6533.1	6533.1
5°	6472.2	6464.5	6464.5	6456.9	6456.9
7.5°	6418.9	6411.2	6403.6	6396.0	6380.8
10°	6342.7	6342.7	6335.1	6297.0	6289.4
12.5°	6220.9	6213.3	6182.8	6129.5	6114.3
15°	6053.4	6053.4	5992.5	5931.5	5908.7
17.5°	5870.6	5863.0	5786.9	5726.0	5695.5
20°	5672.7	5657.4	5581.3	5482.3	5429.0
22.5°	5451.8	5451.8	5360.5	5231.0	5177.7
25°	5246.3	5215.8	5132.0	4949.3	4812.2
27.5°	5010.2	4964.5	4873.2	4614.3	4454.4
30°	4751.3	4728.5	4599.0	4264.0	4142.2
32.5°	4507.7	4469.6	4332.5	3982.3	3883.3
35°	4256.4	4225.9	4020.4	3715.8	3624.4
37.5°	4005.1	3967.1	3708.2	3464.5	3350.3
40°	3753.8	3708.2	3426.4	3205.6	3083.8
42.5°	3517.8	3456.9	3182.8	2946.7	2809.7
45°	3266.5	3198.0	2923.9	2680.2	2573.6
47.5°	3015.3	2954.3	2703.1	2451.8	2330.0
50°	2748.8	2695.5	2467.0	2215.8	2086.3
52.5°	2527.9	2444.2	2223.4	1972.1	1865.5
55°	2269.1	2200.5	1994.9	1758.9	1667.5
57.5°	2033.0	1964.5	1774.1	1553.3	1477.2
60°	1812.2	1713.2	1553.3	1363.0	1302.0
62.5°	1568.5	1492.4	1355.3	1195.4	1271.6
65°	1347.7	1271.6	1149.8	1172.6	974.6
67.5°	1104.1	1066.0	959.4	852.8	822.3
70°	898.5	852.8	814.7	700.5	670.1
72.5°	715.7	670.1	616.8	555.8	533.0
75°	540.6	502.5	472.1	449.2	494.9
77.5°	373.1	357.9	335.0	312.2	304.6
80°	243.7	236.0	228.4	220.8	213.2
82.5°	144.7	144.7	144.7	144.7	144.7
85°	76.1	83.8	91.4	99.0	106.6
87.5°	45.7	45.7	53.3	60.9	68.5
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)