

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: P547249

Luminaire Tested: **FMR-24-4-LD4-3STD-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: P547249
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-LD4-3STD-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

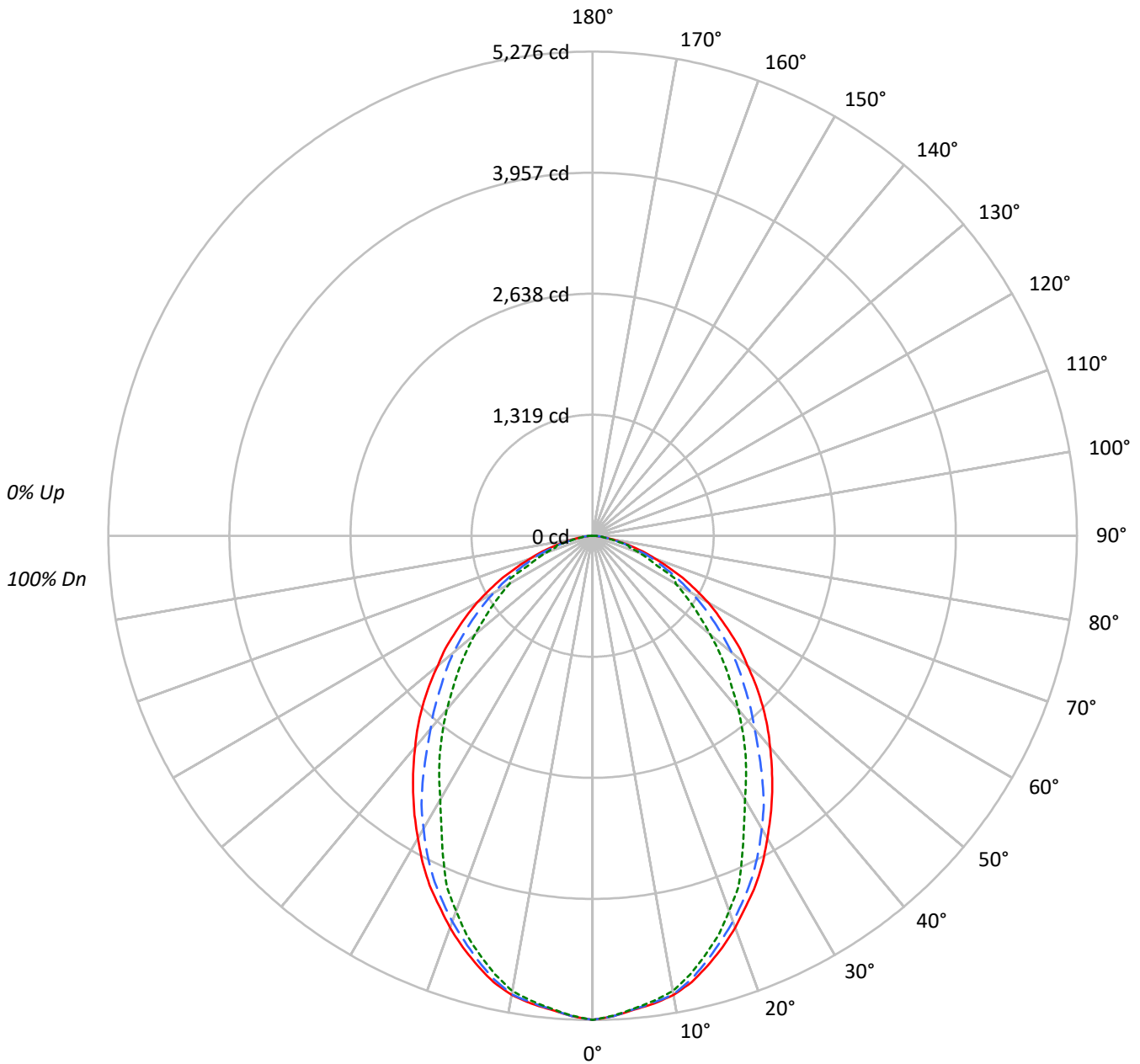
Lumens per Lamp: N/A
Luminaire Lumens: 10357.0 lumens
Efficiency: N/A
Efficacy: 103.7 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 99.9
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°	7098	7098	7098
5°	7002	6994	6985
10°	6941	6933	6883
15°	6754	6686	6593
20°	6506	6401	6227
25°	6239	6103	5722
30°	5913	5723	5155
35°	5600	5289	4769
40°	5281	4821	4339
45°	4979	4457	3923
50°	4609	4136	3498
55°	4263	3749	3133
60°	3906	3348	2806
65°	3437	2932	2486
70°	2831	2567	2111
75°	2251	1966	2061
80°	1512	1418	1323
85°	942	1130	1318



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	491.1	4.7
10°-20°	1347.8	13.0
20°-30°	1865.9	18.0
30°-40°	1989.6	19.2
40°-50°	1815.1	17.5
50°-60°	1422.0	13.7
60°-70°	926.8	8.9
70°-80°	410.6	4.0
80°-90°	88.2	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°	3704.8	35.8
0°-40°	5694.4	55.0
0°-60°	8931.5	86.2
0°-90°	10357.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	10357.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5276	5276	5276	5276	5276	
5°	5184	5178	5178	5172	5172	492
15°	4849	4849	4800	4751	4733	1363
25°	4202	4178	4111	3964	3855	1929
35°	3409	3385	3220	2976	2903	2131
45°	2616	2562	2342	2147	2062	2015
55°	1818	1763	1598	1409	1336	1630
65°	1080	1018	921	939	781	1064
75°	433	402	378	360	396	464
85°	61	67	73	79	85	85
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	5275.7	5275.7	5275.7	5275.7	5275.7
2.5°	5239.1	5239.1	5239.1	5233.0	5233.0
5°	5184.2	5178.1	5178.1	5172.0	5172.0
7.5°	5141.5	5135.4	5129.3	5123.2	5111.0
10°	5080.5	5080.5	5074.4	5044.0	5037.9
12.5°	4983.0	4976.9	4952.5	4909.8	4897.6
15°	4848.8	4848.8	4800.0	4751.2	4732.9
17.5°	4702.4	4696.3	4635.3	4586.5	4562.1
20°	4543.8	4531.6	4470.6	4391.3	4348.7
22.5°	4367.0	4367.0	4293.8	4190.1	4147.4
25°	4202.3	4177.9	4110.8	3964.4	3854.6
27.5°	4013.2	3976.6	3903.4	3696.1	3568.0
30°	3805.8	3787.5	3683.9	3415.5	3317.9
32.5°	3610.7	3580.2	3470.4	3189.8	3110.5
35°	3409.4	3385.0	3220.3	2976.4	2903.2
37.5°	3208.1	3177.6	2970.3	2775.1	2683.6
40°	3006.9	2970.3	2744.6	2567.7	2470.1
42.5°	2817.8	2769.0	2549.4	2360.3	2250.6
45°	2616.5	2561.6	2342.1	2146.9	2061.5
47.5°	2415.2	2366.4	2165.2	1963.9	1866.3
50°	2201.8	2159.1	1976.1	1774.8	1671.2
52.5°	2024.9	1957.8	1780.9	1579.7	1494.3
55°	1817.5	1762.6	1598.0	1408.9	1335.7
57.5°	1628.5	1573.6	1421.1	1244.2	1183.2
60°	1451.6	1372.3	1244.2	1091.7	1042.9
62.5°	1256.4	1195.4	1085.6	957.6	1018.5
65°	1079.5	1018.5	921.0	939.3	780.7
67.5°	884.4	853.9	768.5	683.1	658.7
70°	719.7	683.1	652.6	561.1	536.7
72.5°	573.3	536.7	494.0	445.2	426.9
75°	433.0	402.5	378.1	359.8	396.4
77.5°	298.9	286.7	268.4	250.1	244.0
80°	195.2	189.1	183.0	176.9	170.8
82.5°	115.9	115.9	115.9	115.9	115.9
85°	61.0	67.1	73.2	79.3	85.4
87.5°	36.6	36.6	42.7	48.8	54.9
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)