

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: P545956

Luminaire Tested: **FMR-12-4-LD4-1LO-40-UNV-81-94-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: P545956
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-12-4-LD4-1LO-40-UNV-81-94-EDD
Description: 1X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

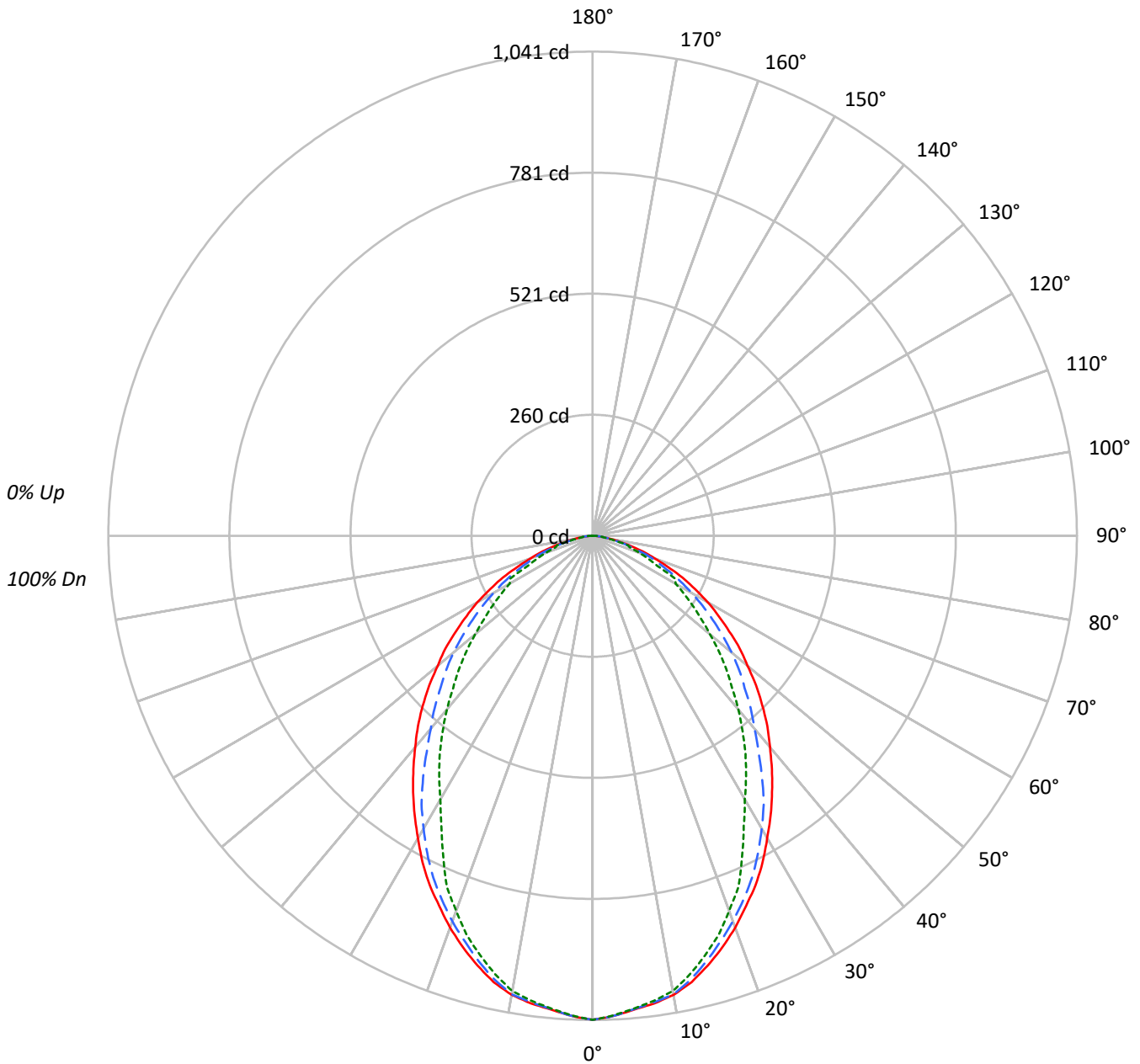
Lumens per Lamp: N/A
Luminaire Lumens: 2043.0 lumens
Efficiency: N/A
Efficacy: 87.3 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 23.4
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°	2801	2801	2801
5°	2762	2759	2756
10°	2739	2735	2716
15°	2665	2638	2601
20°	2567	2525	2456
25°	2461	2408	2258
30°	2333	2258	2034
35°	2209	2087	1881
40°	2083	1902	1712
45°	1964	1758	1547
50°	1818	1632	1380
55°	1682	1479	1236
60°	1541	1321	1107
65°	1356	1157	981
70°	1117	1013	833
75°	888	776	813
80°	597	559	522
85°	371	445	519



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	96.9	4.7
10°-20°	265.9	13.0
20°-30°	368.1	18.0
30°-40°	392.5	19.2
40°-50°	358.0	17.5
50°-60°	280.5	13.7
60°-70°	182.8	8.9
70°-80°	81.0	4.0
80°-90°	17.4	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°	730.8	35.8
0°-40°	1123.3	55.0
0°-60°	1761.8	86.2
0°-90°	2043.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2043.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1041	1041	1041	1041	1041	
5°	1023	1021	1021	1020	1020	97
15°	956	956	947	937	934	269
25°	829	824	811	782	760	381
35°	672	668	635	587	573	420
45°	516	505	462	424	407	398
55°	358	348	315	278	264	322
65°	213	201	182	185	154	210
75°	85	79	75	71	78	92
85°	12	13	14	16	17	17
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1040.7	1040.7	1040.7	1040.7	1040.7
2.5°	1033.5	1033.5	1033.5	1032.3	1032.3
5°	1022.6	1021.4	1021.4	1020.2	1020.2
7.5°	1014.2	1013.0	1011.8	1010.6	1008.2
10°	1002.2	1002.2	1001.0	995.0	993.8
12.5°	982.9	981.7	976.9	968.5	966.1
15°	956.5	956.5	946.8	937.2	933.6
17.5°	927.6	926.4	914.4	904.7	899.9
20°	896.3	893.9	881.9	866.2	857.8
22.5°	861.4	861.4	847.0	826.5	818.1
25°	828.9	824.1	810.9	782.0	760.4
27.5°	791.6	784.4	770.0	729.1	703.8
30°	750.7	747.1	726.7	673.7	654.5
32.5°	712.2	706.2	684.6	629.2	613.6
35°	672.5	667.7	635.2	587.1	572.7
37.5°	632.8	626.8	585.9	547.4	529.4
40°	593.1	585.9	541.4	506.5	487.3
42.5°	555.8	546.2	502.9	465.6	443.9
45°	516.1	505.3	462.0	423.5	406.6
47.5°	476.4	466.8	427.1	387.4	368.1
50°	434.3	425.9	389.8	350.1	329.6
52.5°	399.4	386.2	351.3	311.6	294.8
55°	358.5	347.7	315.2	277.9	263.5
57.5°	321.2	310.4	280.3	245.4	233.4
60°	286.3	270.7	245.4	215.4	205.7
62.5°	247.8	235.8	214.2	188.9	200.9
65°	212.9	200.9	181.7	185.3	154.0
67.5°	174.4	168.4	151.6	134.7	129.9
70°	142.0	134.7	128.7	110.7	105.9
72.5°	113.1	105.9	97.5	87.8	84.2
75°	85.4	79.4	74.6	71.0	78.2
77.5°	59.0	56.5	52.9	49.3	48.1
80°	38.5	37.3	36.1	34.9	33.7
82.5°	22.9	22.9	22.9	22.9	22.9
85°	12.0	13.2	14.4	15.6	16.8
87.5°	7.2	7.2	8.4	9.6	10.8
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)