

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: P545953

Luminaire Tested: **FMR-12-4-LD4-1LO-40-UNV-81-86-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: P545953
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-81-86-EDD
Description: 1X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

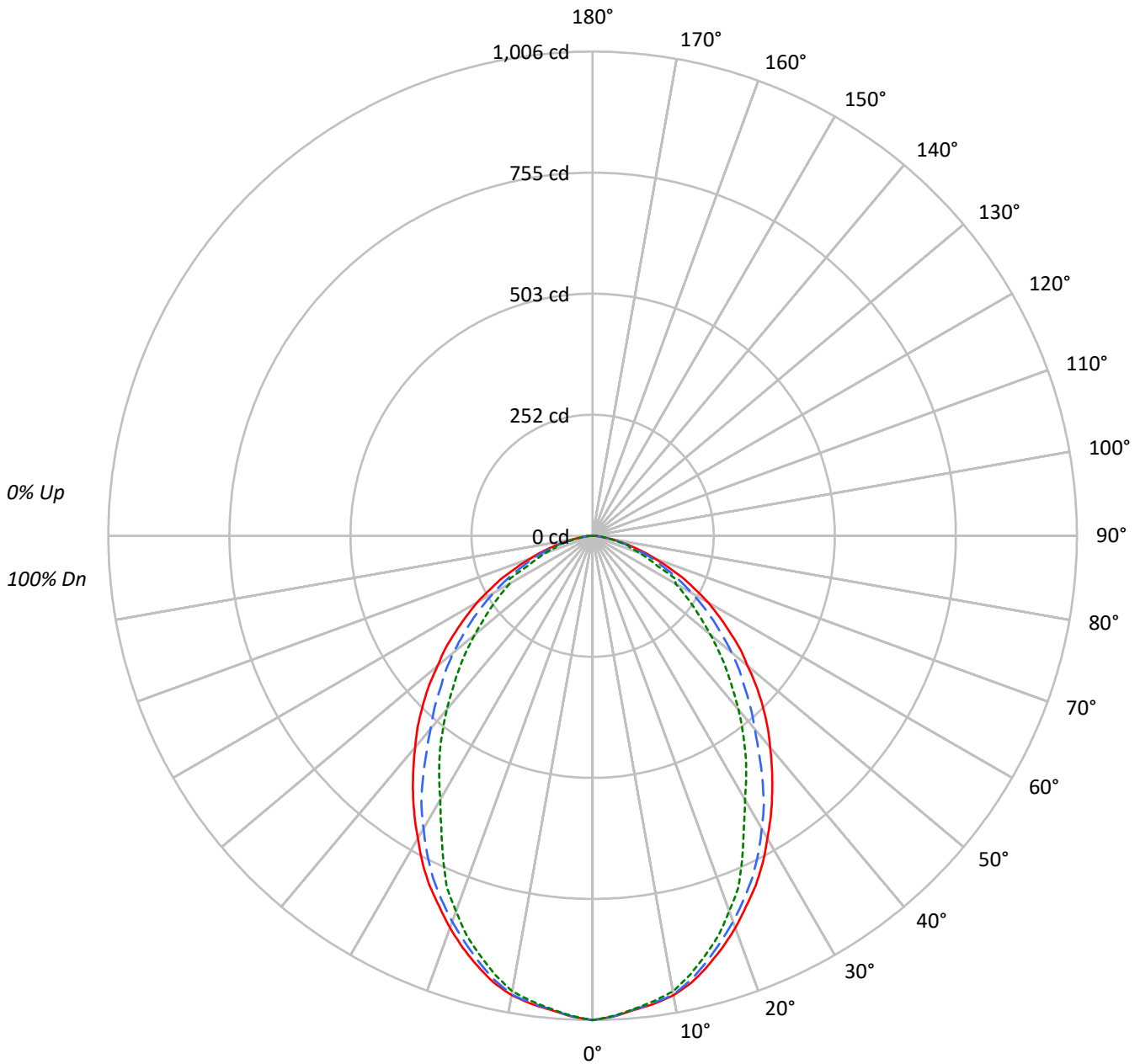
Lumens per Lamp: N/A
Luminaire Lumens: 1976.0 lumens
Efficiency: N/A
Efficacy: 84.4 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 23.4
Input Voltage (V): NR
Input Current (A_{in}): 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°	2708	2708	2708
5°	2672	2669	2666
10°	2649	2645	2626
15°	2577	2551	2516
20°	2483	2442	2376
25°	2380	2329	2184
30°	2256	2184	1967
35°	2137	2018	1820
40°	2015	1839	1656
45°	1900	1700	1497
50°	1759	1578	1335
55°	1627	1430	1195
60°	1490	1278	1071
65°	1312	1119	948
70°	1080	980	806
75°	859	750	786
80°	576	541	505
85°	358	432	503



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	93.7	4.7
10°-20°	257.1	13.0
20°-30°	356.0	18.0
30°-40°	379.6	19.2
40°-50°	346.3	17.5
50°-60°	271.3	13.7
60°-70°	176.8	8.9
70°-80°	78.3	4.0
80°-90°	16.8	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°	706.8	35.8
0°-40°	1086.4	55.0
0°-60°	1704.0	86.2
0°-90°	1976.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1976.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1006	1006	1006	1006	1006	
5°	989	988	988	987	987	94
15°	925	925	916	906	903	260
25°	802	797	784	756	735	368
35°	650	646	614	568	554	407
45°	499	489	447	410	393	385
55°	347	336	305	269	255	311
65°	206	194	176	179	149	203
75°	83	77	72	69	76	89
85°	12	13	14	15	16	16
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1006.5	1006.5	1006.5	1006.5	1006.5
2.5°	999.6	999.6	999.6	998.4	998.4
5°	989.1	987.9	987.9	986.8	986.8
7.5°	980.9	979.8	978.6	977.5	975.1
10°	969.3	969.3	968.1	962.3	961.2
12.5°	950.7	949.5	944.9	936.7	934.4
15°	925.1	925.1	915.8	906.5	903.0
17.5°	897.2	896.0	884.4	875.1	870.4
20°	866.9	864.6	852.9	837.8	829.7
22.5°	833.2	833.2	819.2	799.4	791.3
25°	801.7	797.1	784.3	756.4	735.4
27.5°	765.7	758.7	744.7	705.2	680.7
30°	726.1	722.6	702.8	651.6	633.0
32.5°	688.9	683.1	662.1	608.6	593.5
35°	650.5	645.8	614.4	567.9	553.9
37.5°	612.1	606.3	566.7	529.5	512.0
40°	573.7	566.7	523.6	489.9	471.3
42.5°	537.6	528.3	486.4	450.3	429.4
45°	499.2	488.7	446.8	409.6	393.3
47.5°	460.8	451.5	413.1	374.7	356.1
50°	420.1	411.9	377.0	338.6	318.8
52.5°	386.3	373.5	339.8	301.4	285.1
55°	346.8	336.3	304.9	268.8	254.8
57.5°	310.7	300.2	271.1	237.4	225.7
60°	276.9	261.8	237.4	208.3	199.0
62.5°	239.7	228.1	207.1	182.7	194.3
65°	206.0	194.3	175.7	179.2	148.9
67.5°	168.7	162.9	146.6	130.3	125.7
70°	137.3	130.3	124.5	107.1	102.4
72.5°	109.4	102.4	94.3	84.9	81.5
75°	82.6	76.8	72.1	68.7	75.6
77.5°	57.0	54.7	51.2	47.7	46.5
80°	37.2	36.1	34.9	33.7	32.6
82.5°	22.1	22.1	22.1	22.1	22.1
85°	11.6	12.8	14.0	15.1	16.3
87.5°	7.0	7.0	8.1	9.3	10.5
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)