

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: P545965

Luminaire Tested: **FMR-12-4-LD4-1LO-40-UNV-82-96-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: P545965
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-82-96-EDD
Description: 1X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

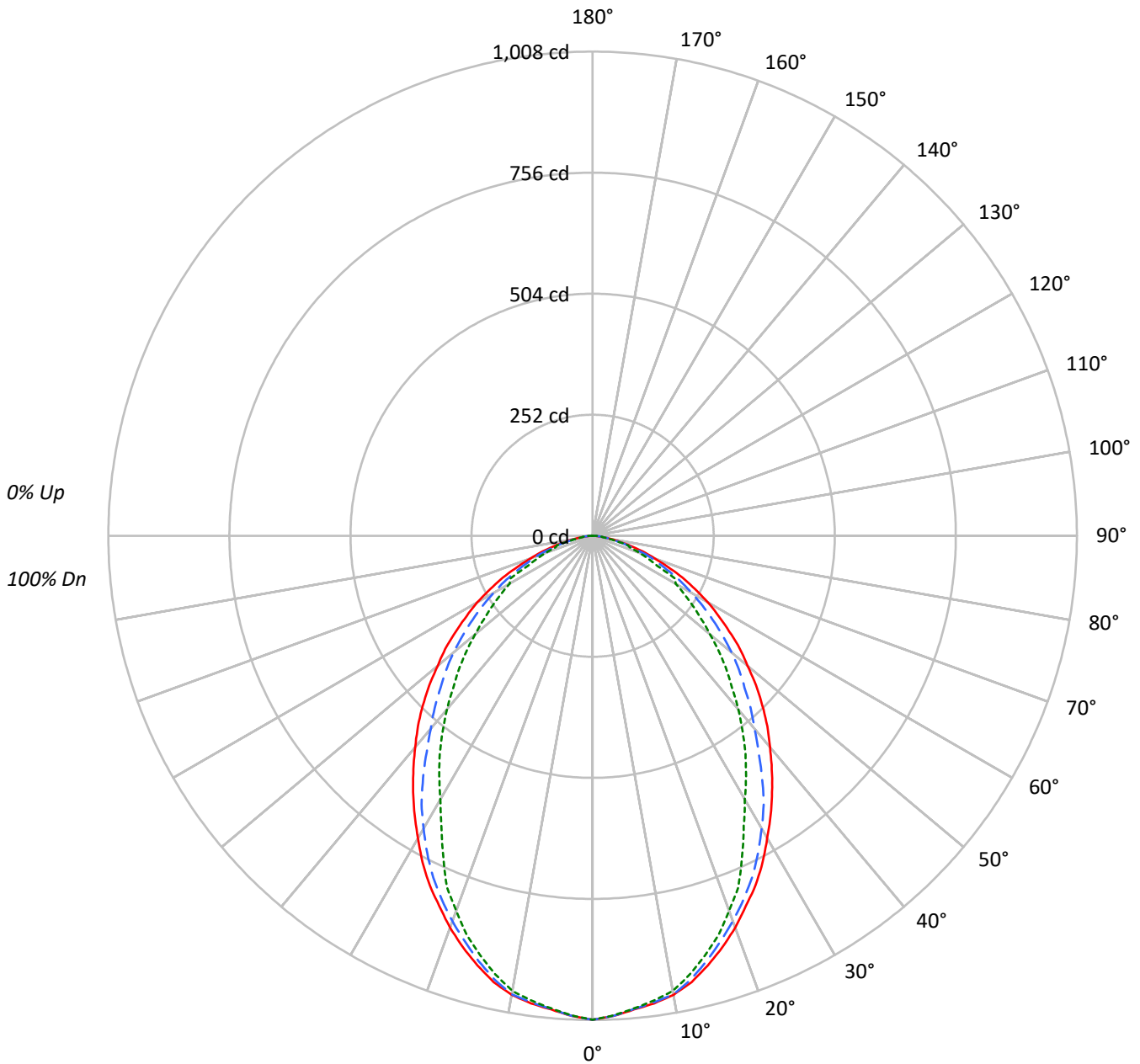
Lumens per Lamp: N/A
Luminaire Lumens: 1978.0 lumens
Efficiency: N/A
Efficacy: 84.5 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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

TEST NUMBER: P545965

CATALOG NUMBER: FMR-12-4-LD4-1LO-40-UNV-82-96-EDD

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°	2711	2711	2711
5°	2675	2671	2668
10°	2651	2648	2629
15°	2580	2554	2518
20°	2485	2445	2378
25°	2383	2331	2186
30°	2258	2186	1969
35°	2139	2020	1822
40°	2017	1841	1657
45°	1902	1702	1498
50°	1760	1580	1336
55°	1628	1432	1197
60°	1492	1279	1072
65°	1313	1120	949
70°	1081	980	806
75°	860	751	787
80°	578	541	505
85°	358	432	503



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	93.8	4.7
10°-20°	257.4	13.0
20°-30°	356.4	18.0
30°-40°	380.0	19.2
40°-50°	346.6	17.5
50°-60°	271.6	13.7
60°-70°	177.0	8.9
70°-80°	78.4	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°	707.5	35.8
0°-40°	1087.5	55.0
0°-60°	1705.7	86.2
0°-90°	1978.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1978.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1008	1008	1008	1008	1008	
5°	990	989	989	988	988	94
15°	926	926	917	907	904	260
25°	803	798	785	757	736	368
35°	651	646	615	568	554	407
45°	500	489	447	410	394	385
55°	347	337	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°	1007.6	1007.6	1007.6	1007.6	1007.6
2.5°	1000.6	1000.6	1000.6	999.4	999.4
5°	990.1	988.9	988.9	987.8	987.8
7.5°	981.9	980.8	979.6	978.4	976.1
10°	970.3	970.3	969.1	963.3	962.1
12.5°	951.7	950.5	945.8	937.7	935.3
15°	926.0	926.0	916.7	907.4	903.9
17.5°	898.1	896.9	885.3	875.9	871.3
20°	867.8	865.5	853.8	838.7	830.5
22.5°	834.0	834.0	820.0	800.2	792.1
25°	802.6	797.9	785.1	757.1	736.2
27.5°	766.4	759.5	745.5	705.9	681.4
30°	726.8	723.4	703.5	652.3	633.7
32.5°	689.6	683.7	662.8	609.2	594.1
35°	651.1	646.5	615.0	568.4	554.5
37.5°	612.7	606.9	567.3	530.0	512.5
40°	574.3	567.3	524.2	490.4	471.8
42.5°	538.1	528.8	486.9	450.8	429.8
45°	499.7	489.2	447.3	410.0	393.7
47.5°	461.3	451.9	413.5	375.1	356.4
50°	420.5	412.3	377.4	339.0	319.2
52.5°	386.7	373.9	340.1	301.7	285.4
55°	347.1	336.6	305.2	269.1	255.1
57.5°	311.0	300.5	271.4	237.6	226.0
60°	277.2	262.1	237.6	208.5	199.2
62.5°	240.0	228.3	207.3	182.9	194.5
65°	206.2	194.5	175.9	179.4	149.1
67.5°	168.9	163.1	146.8	130.5	125.8
70°	137.4	130.5	124.6	107.2	102.5
72.5°	109.5	102.5	94.4	85.0	81.5
75°	82.7	76.9	72.2	68.7	75.7
77.5°	57.1	54.7	51.3	47.8	46.6
80°	37.3	36.1	34.9	33.8	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	8.2	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)