

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: P545960

Luminaire Tested: **FMR-12-4-LD4-1LO-40-UNV-82-85-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: P545960
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-82-85-EDD
Description: 1X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

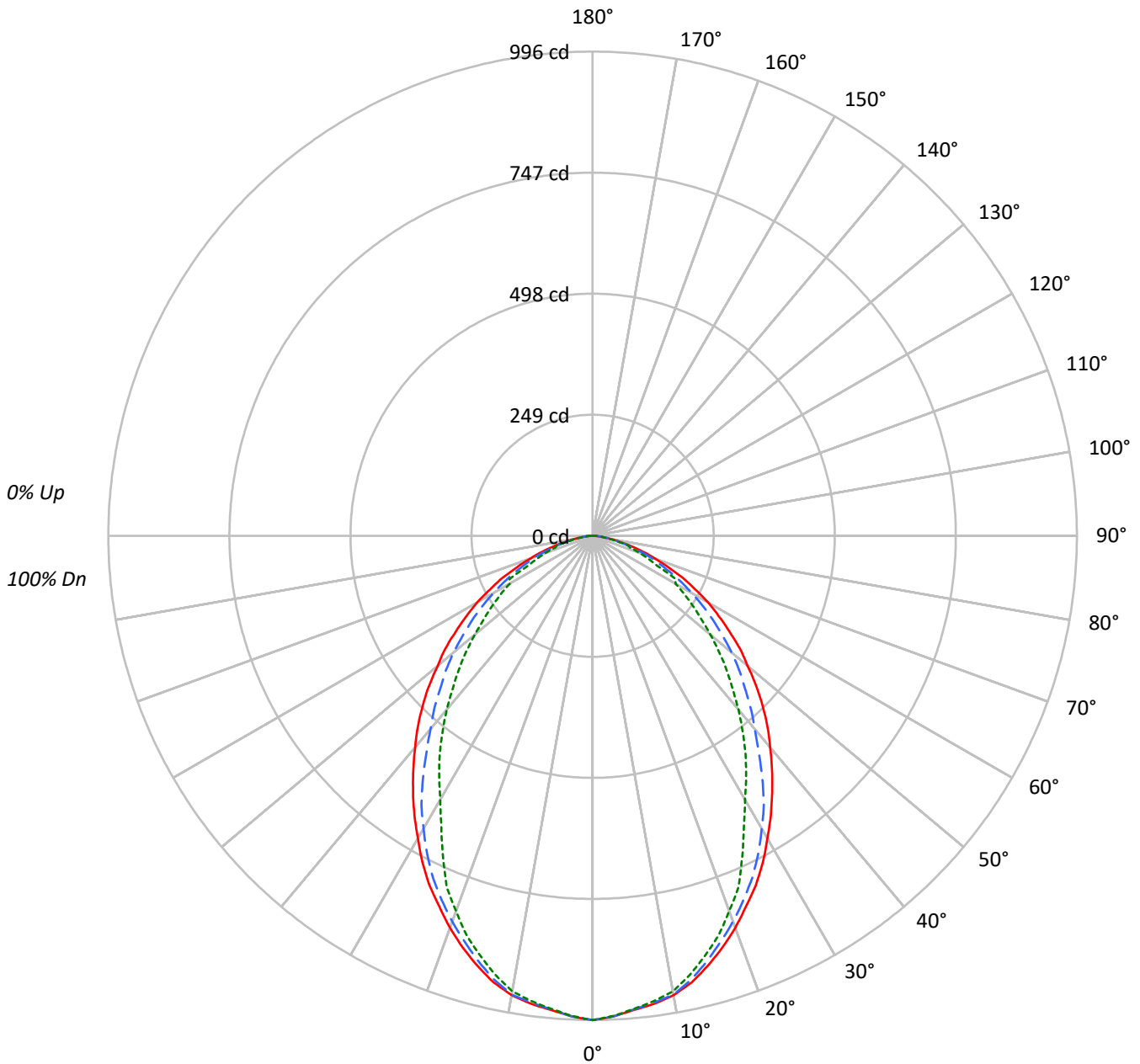
Lumens per Lamp: N/A
Luminaire Lumens: 1956.0 lumens
Efficiency: N/A
Efficacy: 83.6 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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°	2681	2681	2681
5°	2645	2642	2639
10°	2622	2619	2600
15°	2551	2525	2490
20°	2457	2418	2352
25°	2356	2305	2162
30°	2234	2162	1947
35°	2115	1998	1801
40°	1995	1821	1639
45°	1880	1683	1482
50°	1741	1562	1321
55°	1611	1416	1184
60°	1475	1265	1060
65°	1298	1107	939
70°	1069	969	798
75°	850	742	779
80°	572	536	501
85°	355	426	497



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	92.7	4.7
10°-20°	254.5	13.0
20°-30°	352.4	18.0
30°-40°	375.7	19.2
40°-50°	342.8	17.5
50°-60°	268.6	13.7
60°-70°	175.0	8.9
70°-80°	77.5	4.0
80°-90°	16.7	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°	699.7	35.8
0°-40°	1075.4	55.0
0°-60°	1686.8	86.2
0°-90°	1956.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1956.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	996	996	996	996	996	
5°	979	978	978	977	977	93
15°	916	916	906	897	894	257
25°	794	789	776	749	728	364
35°	644	639	608	562	548	403
45°	494	484	442	406	389	381
55°	343	333	302	266	252	308
65°	204	192	174	177	147	201
75°	82	76	71	68	75	88
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°	996.4	996.4	996.4	996.4	996.4
2.5°	989.4	989.4	989.4	988.3	988.3
5°	979.1	977.9	977.9	976.8	976.8
7.5°	971.0	969.9	968.7	967.6	965.3
10°	959.5	959.5	958.3	952.6	951.4
12.5°	941.1	939.9	935.3	927.2	924.9
15°	915.7	915.7	906.5	897.3	893.8
17.5°	888.1	886.9	875.4	866.2	861.6
20°	858.1	855.8	844.3	829.3	821.3
22.5°	824.7	824.7	810.9	791.3	783.3
25°	793.6	789.0	776.4	748.7	728.0
27.5°	757.9	751.0	737.2	698.0	673.8
30°	718.8	715.3	695.7	645.0	626.6
32.5°	681.9	676.1	655.4	602.4	587.4
35°	643.9	639.3	608.2	562.1	548.3
37.5°	605.9	600.1	561.0	524.1	506.8
40°	567.9	561.0	518.3	484.9	466.5
42.5°	532.2	522.9	481.5	445.8	425.0
45°	494.1	483.8	442.3	405.5	389.3
47.5°	456.1	446.9	408.9	370.9	352.5
50°	415.8	407.8	373.2	335.2	315.6
52.5°	382.4	369.7	336.3	298.3	282.2
55°	343.3	332.9	301.8	266.1	252.3
57.5°	307.5	297.2	268.4	235.0	223.5
60°	274.1	259.2	235.0	206.2	197.0
62.5°	237.3	225.8	205.0	180.8	192.4
65°	203.9	192.4	173.9	177.4	147.4
67.5°	167.0	161.3	145.1	129.0	124.4
70°	135.9	129.0	123.2	106.0	101.4
72.5°	108.3	101.4	93.3	84.1	80.6
75°	81.8	76.0	71.4	68.0	74.9
77.5°	56.4	54.1	50.7	47.2	46.1
80°	36.9	35.7	34.6	33.4	32.3
82.5°	21.9	21.9	21.9	21.9	21.9
85°	11.5	12.7	13.8	15.0	16.1
87.5°	6.9	6.9	8.1	9.2	10.4
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)