

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: P546099

Luminaire Tested: **FMR-12-4-LD4-1STD-50-UNV-93-88-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: P546099
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-LD4-1STD-50-UNV-93-88-EDD
Description: 1X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

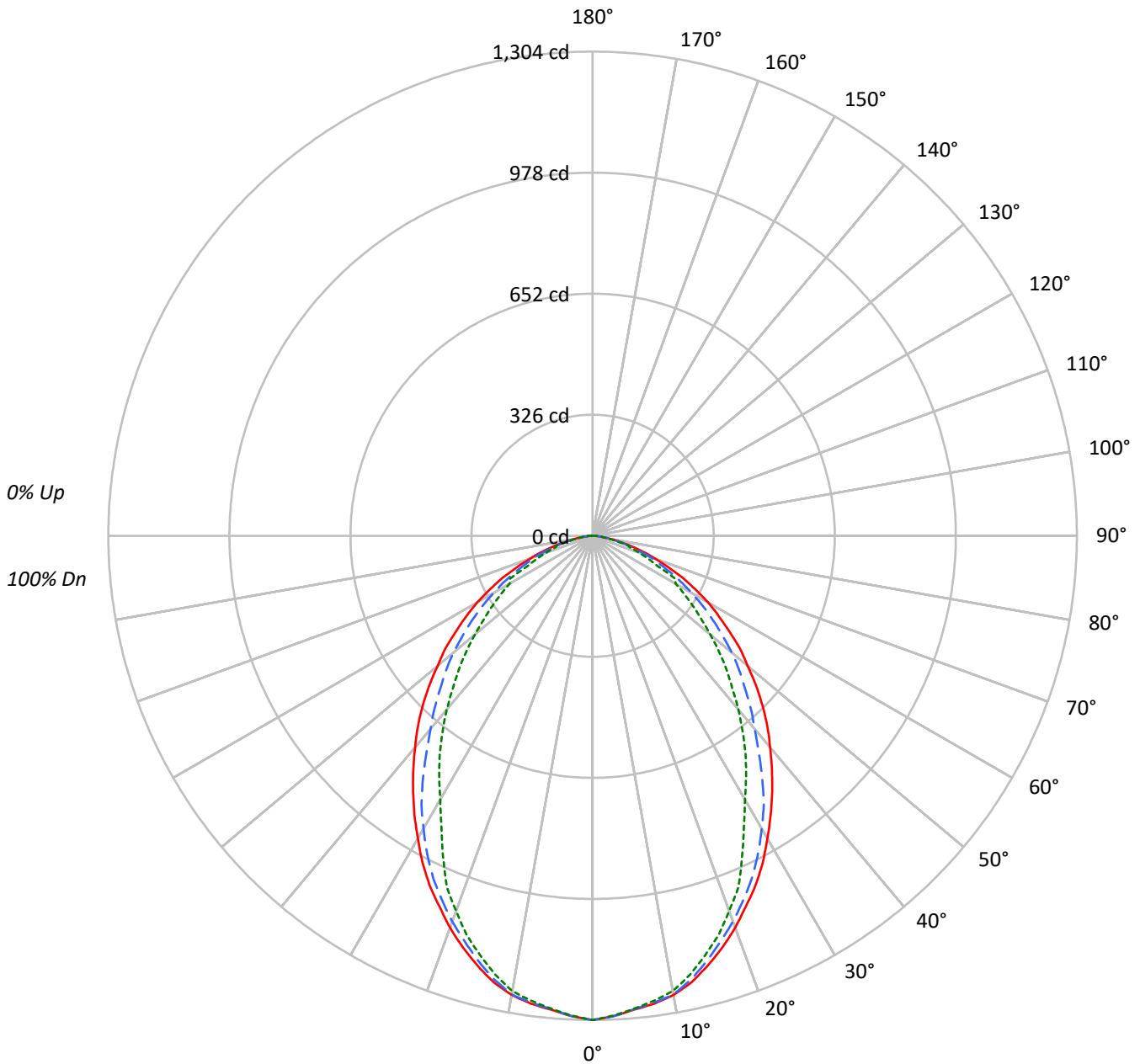
Lumens per Lamp: N/A
Luminaire Lumens: 2560.0 lumens
Efficiency: N/A
Efficacy: 76.9 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 33.3
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°	3509	3509	3509
5°	3461	3457	3453
10°	3431	3427	3402
15°	3339	3305	3259
20°	3216	3164	3078
25°	3084	3017	2829
30°	2923	2829	2548
35°	2768	2615	2357
40°	2611	2383	2145
45°	2461	2203	1939
50°	2278	2045	1729
55°	2107	1853	1549
60°	1931	1655	1387
65°	1699	1449	1229
70°	1400	1269	1044
75°	1112	972	1019
80°	747	700	654
85°	466	559	651



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	121.4	4.7
10°-20°	333.1	13.0
20°-30°	461.2	18.0
30°-40°	491.8	19.2
40°-50°	448.7	17.5
50°-60°	351.5	13.7
60°-70°	229.1	8.9
70°-80°	101.5	4.0
80°-90°	21.8	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°	915.7	35.8
0°-40°	1407.5	55.0
0°-60°	2207.6	86.2
0°-90°	2560.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2560.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1304	1304	1304	1304	1304	
5°	1281	1280	1280	1278	1278	122
15°	1198	1198	1186	1174	1170	337
25°	1039	1033	1016	980	953	477
35°	843	837	796	736	718	527
45°	647	633	579	531	510	498
55°	449	436	395	348	330	403
65°	267	252	228	232	193	263
75°	107	100	94	89	98	115
85°	15	17	18	20	21	21
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1304.0	1304.0	1304.0	1304.0	1304.0
2.5°	1295.0	1295.0	1295.0	1293.5	1293.5
5°	1281.4	1279.9	1279.9	1278.4	1278.4
7.5°	1270.9	1269.4	1267.8	1266.3	1263.3
10°	1255.8	1255.8	1254.3	1246.7	1245.2
12.5°	1231.7	1230.2	1224.1	1213.6	1210.6
15°	1198.5	1198.5	1186.4	1174.4	1169.9
17.5°	1162.3	1160.8	1145.7	1133.7	1127.6
20°	1123.1	1120.1	1105.0	1085.4	1074.9
22.5°	1079.4	1079.4	1061.3	1035.7	1025.1
25°	1038.7	1032.7	1016.1	979.9	952.8
27.5°	992.0	982.9	964.8	913.6	881.9
30°	940.7	936.2	910.6	844.2	820.1
32.5°	892.5	884.9	857.8	788.4	768.8
35°	842.7	836.7	796.0	735.7	717.6
37.5°	793.0	785.4	734.2	685.9	663.3
40°	743.2	734.2	678.4	634.7	610.6
42.5°	696.5	684.4	630.2	583.4	556.3
45°	646.7	633.2	578.9	530.7	509.6
47.5°	597.0	584.9	535.2	485.4	461.3
50°	544.2	533.7	488.4	438.7	413.1
52.5°	500.5	483.9	440.2	390.5	369.3
55°	449.2	435.7	395.0	348.2	330.2
57.5°	402.5	388.9	351.3	307.5	292.5
60°	358.8	339.2	307.5	269.9	257.8
62.5°	310.6	295.5	268.3	236.7	251.8
65°	266.8	251.8	227.6	232.2	193.0
67.5°	218.6	211.1	190.0	168.8	162.8
70°	177.9	168.8	161.3	138.7	132.7
72.5°	141.7	132.7	122.1	110.1	105.5
75°	107.0	99.5	93.5	88.9	98.0
77.5°	73.9	70.9	66.3	61.8	60.3
80°	48.2	46.7	45.2	43.7	42.2
82.5°	28.6	28.6	28.6	28.6	28.6
85°	15.1	16.6	18.1	19.6	21.1
87.5°	9.0	9.0	10.6	12.1	13.6
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)