

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: P546534

Luminaire Tested: **FMR-24-4-LD4-1LO-40-UNV-81-97-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: P546534
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-24-4-LD4-1LO-40-UNV-81-97-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

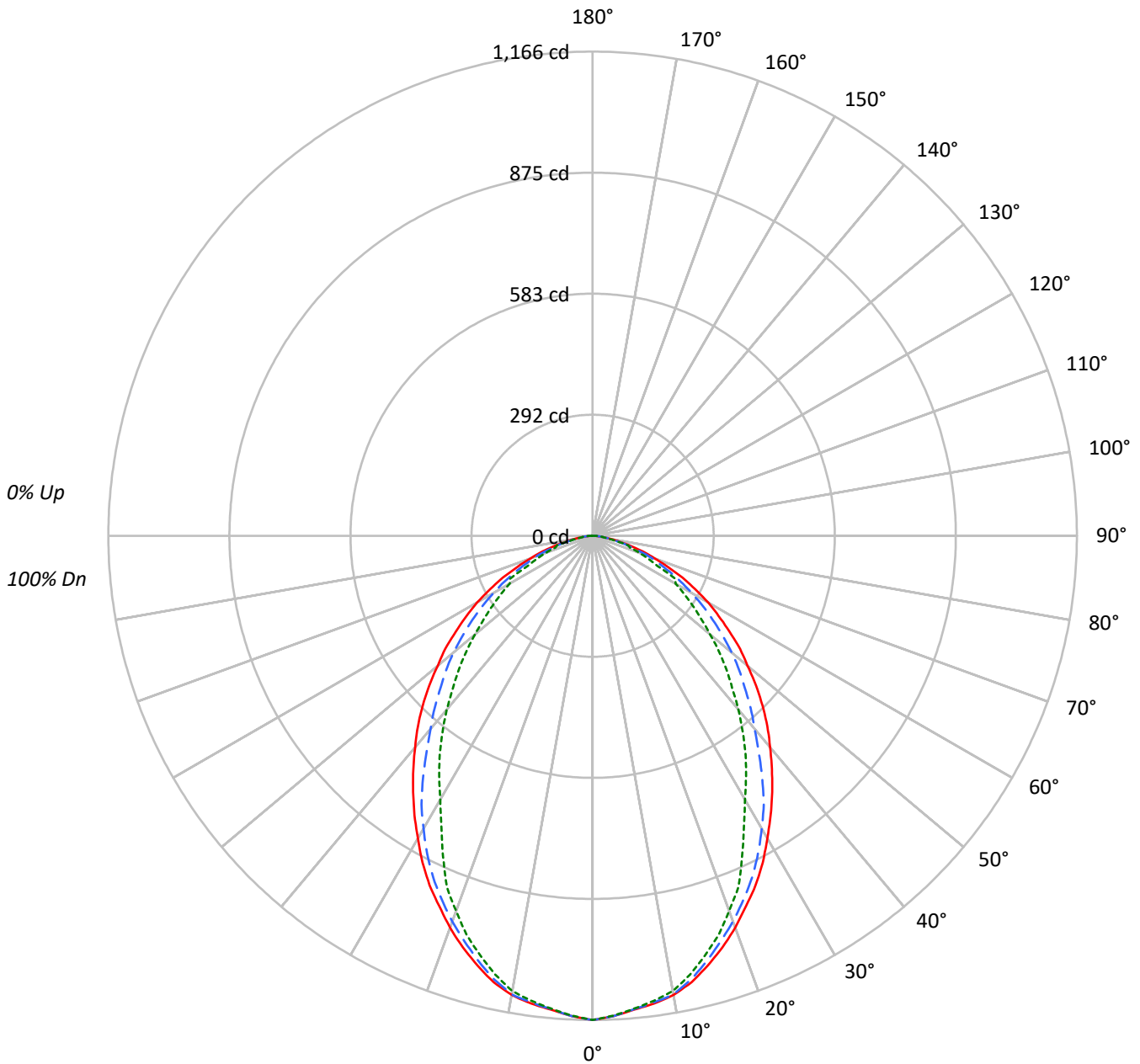
Lumens per Lamp: N/A
Luminaire Lumens: 2289.0 lumens
Efficiency: N/A
Efficacy: 97.8 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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°	1569	1569	1569
5°	1548	1546	1544
10°	1534	1532	1521
15°	1493	1478	1457
20°	1438	1415	1376
25°	1379	1349	1265
30°	1307	1265	1139
35°	1238	1169	1054
40°	1167	1065	959
45°	1100	985	867
50°	1019	914	773
55°	942	829	692
60°	863	740	620
65°	760	648	549
70°	626	567	467
75°	498	435	455
80°	334	313	292
85°	208	250	292



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	108.5	4.7
10°-20°	297.9	13.0
20°-30°	412.4	18.0
30°-40°	439.7	19.2
40°-50°	401.2	17.5
50°-60°	314.3	13.7
60°-70°	204.8	8.9
70°-80°	90.8	4.0
80°-90°	19.5	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°	818.8	35.8
0°-40°	1258.5	55.0
0°-60°	1974.0	86.2
0°-90°	2289.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2289.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1166	1166	1166	1166	1166	
5°	1146	1144	1144	1143	1143	109
15°	1072	1072	1061	1050	1046	301
25°	929	923	908	876	852	426
35°	754	748	712	658	642	471
45°	578	566	518	474	456	445
55°	402	390	353	311	295	360
65°	239	225	204	208	172	235
75°	96	89	84	80	88	103
85°	14	15	16	18	19	19
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1166.0	1166.0	1166.0	1166.0	1166.0
2.5°	1157.9	1157.9	1157.9	1156.6	1156.6
5°	1145.8	1144.4	1144.4	1143.1	1143.1
7.5°	1136.3	1135.0	1133.6	1132.3	1129.6
10°	1122.9	1122.9	1121.5	1114.8	1113.4
12.5°	1101.3	1099.9	1094.5	1085.1	1082.4
15°	1071.6	1071.6	1060.8	1050.1	1046.0
17.5°	1039.3	1037.9	1024.5	1013.7	1008.3
20°	1004.2	1001.5	988.1	970.5	961.1
22.5°	965.1	965.1	949.0	926.0	916.6
25°	928.7	923.4	908.5	876.2	851.9
27.5°	887.0	878.9	862.7	816.9	788.6
30°	841.1	837.1	814.2	754.9	733.3
32.5°	798.0	791.3	767.0	705.0	687.5
35°	753.5	748.1	711.7	657.8	641.6
37.5°	709.0	702.3	656.5	613.3	593.1
40°	664.5	656.5	606.6	567.5	545.9
42.5°	622.8	612.0	563.4	521.7	497.4
45°	578.3	566.1	517.6	474.5	455.6
47.5°	533.8	523.0	478.5	434.0	412.5
50°	486.6	477.2	436.7	392.3	369.3
52.5°	447.5	432.7	393.6	349.1	330.3
55°	401.7	389.6	353.2	311.4	295.2
57.5°	359.9	347.8	314.1	275.0	261.5
60°	320.8	303.3	275.0	241.3	230.5
62.5°	277.7	264.2	239.9	211.6	225.1
65°	238.6	225.1	203.5	207.6	172.5
67.5°	195.5	188.7	169.8	151.0	145.6
70°	159.1	151.0	144.2	124.0	118.6
72.5°	126.7	118.6	109.2	98.4	94.4
75°	95.7	89.0	83.6	79.5	87.6
77.5°	66.1	63.4	59.3	55.3	53.9
80°	43.1	41.8	40.4	39.1	37.7
82.5°	25.6	25.6	25.6	25.6	25.6
85°	13.5	14.8	16.2	17.5	18.9
87.5°	8.1	8.1	9.4	10.8	12.1
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)