

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: P546056

Luminaire Tested: **FMR-12-4-LD4-1STD-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: P546056
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-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

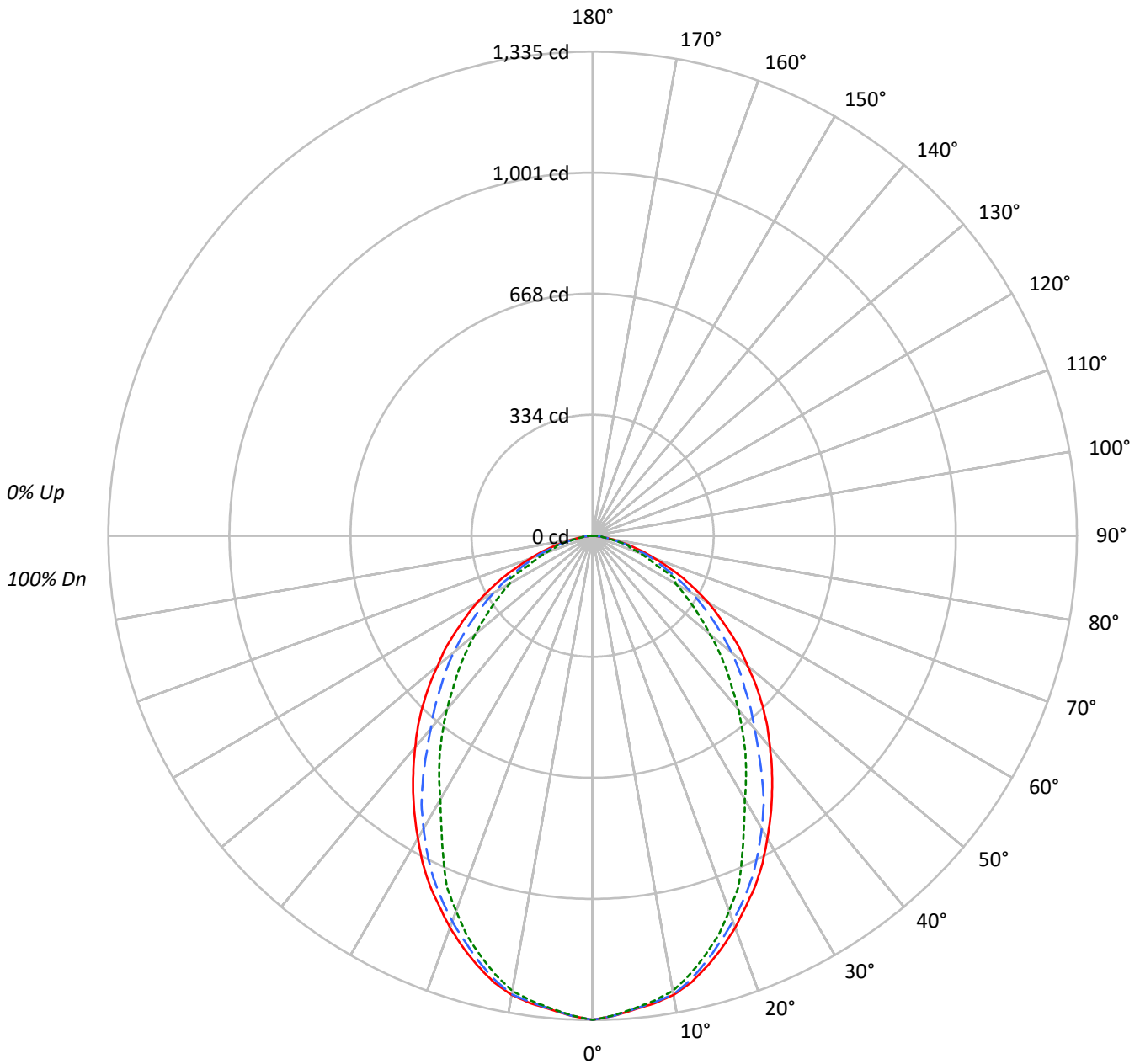
Lumens per Lamp: N/A
Luminaire Lumens: 2620.0 lumens
Efficiency: N/A
Efficacy: 78.7 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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

TEST NUMBER: P546056

CATALOG NUMBER: FMR-12-4-LD4-1STD-40-UNV-82-85-EDD

Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20				20	
RC	80				70				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				100
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87				87
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75				75
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65				65
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56				56
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50				50
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44				44
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40				40
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36				36
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33				33
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30				30

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3591	3591	3591
5°	3542	3538	3534
10°	3512	3508	3482
15°	3417	3383	3336
20°	3292	3239	3150
25°	3156	3088	2895
30°	2992	2896	2608
35°	2833	2676	2413
40°	2672	2439	2195
45°	2519	2255	1985
50°	2332	2093	1770
55°	2157	1896	1585
60°	1976	1694	1420
65°	1739	1484	1258
70°	1433	1299	1068
75°	1138	995	1043
80°	766	717	669
85°	475	571	667



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	124.2	4.7
10°-20°	340.9	13.0
20°-30°	472.0	18.0
30°-40°	503.3	19.2
40°-50°	459.2	17.5
50°-60°	359.7	13.7
60°-70°	234.4	8.9
70°-80°	103.9	4.0
80°-90°	22.3	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°	937.2	35.8
0°-40°	1440.5	55.0
0°-60°	2259.4	86.2
0°-90°	2620.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2620.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1335	1335	1335	1335	1335	
5°	1311	1310	1310	1308	1308	124
15°	1227	1227	1214	1202	1197	345
25°	1063	1057	1040	1003	975	488
35°	862	856	815	753	734	539
45°	662	648	592	543	522	510
55°	460	446	404	356	338	412
65°	273	258	233	238	198	269
75°	110	102	96	91	100	117
85°	15	17	18	20	22	21
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1334.6	1334.6	1334.6	1334.6	1334.6
2.5°	1325.3	1325.3	1325.3	1323.8	1323.8
5°	1311.4	1309.9	1309.9	1308.4	1308.4
7.5°	1300.6	1299.1	1297.6	1296.0	1292.9
10°	1285.2	1285.2	1283.7	1276.0	1274.4
12.5°	1260.5	1259.0	1252.8	1242.0	1238.9
15°	1226.6	1226.6	1214.2	1201.9	1197.3
17.5°	1189.6	1188.0	1172.6	1160.2	1154.1
20°	1149.4	1146.4	1130.9	1110.9	1100.1
22.5°	1104.7	1104.7	1086.2	1060.0	1049.2
25°	1063.0	1056.9	1039.9	1002.9	975.1
27.5°	1015.2	1006.0	987.4	935.0	902.6
30°	962.8	958.1	931.9	864.0	839.3
32.5°	913.4	905.7	877.9	806.9	786.9
35°	862.5	856.3	814.6	752.9	734.4
37.5°	811.6	803.8	751.4	702.0	678.9
40°	760.6	751.4	694.3	649.6	624.9
42.5°	712.8	700.5	644.9	597.1	569.3
45°	661.9	648.0	592.5	543.1	521.5
47.5°	611.0	598.6	547.7	496.8	472.1
50°	557.0	546.2	499.9	449.0	422.7
52.5°	512.2	495.3	450.5	399.6	378.0
55°	459.8	445.9	404.2	356.4	337.9
57.5°	411.9	398.1	359.5	314.7	299.3
60°	367.2	347.1	314.7	276.2	263.8
62.5°	317.8	302.4	274.6	242.2	257.7
65°	273.1	257.7	233.0	237.6	197.5
67.5°	223.7	216.0	194.4	172.8	166.6
70°	182.1	172.8	165.1	141.9	135.8
72.5°	145.0	135.8	125.0	112.6	108.0
75°	109.5	101.8	95.7	91.0	100.3
77.5°	75.6	72.5	67.9	63.3	61.7
80°	49.4	47.8	46.3	44.7	43.2
82.5°	29.3	29.3	29.3	29.3	29.3
85°	15.4	17.0	18.5	20.1	21.6
87.5°	9.3	9.3	10.8	12.3	13.9
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)