

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: P546021

Luminaire Tested: **FMR-12-4-LD4-1STD-35-UNV-81-96-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: P546021
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-35-UNV-81-96-EDD
Description: 1X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

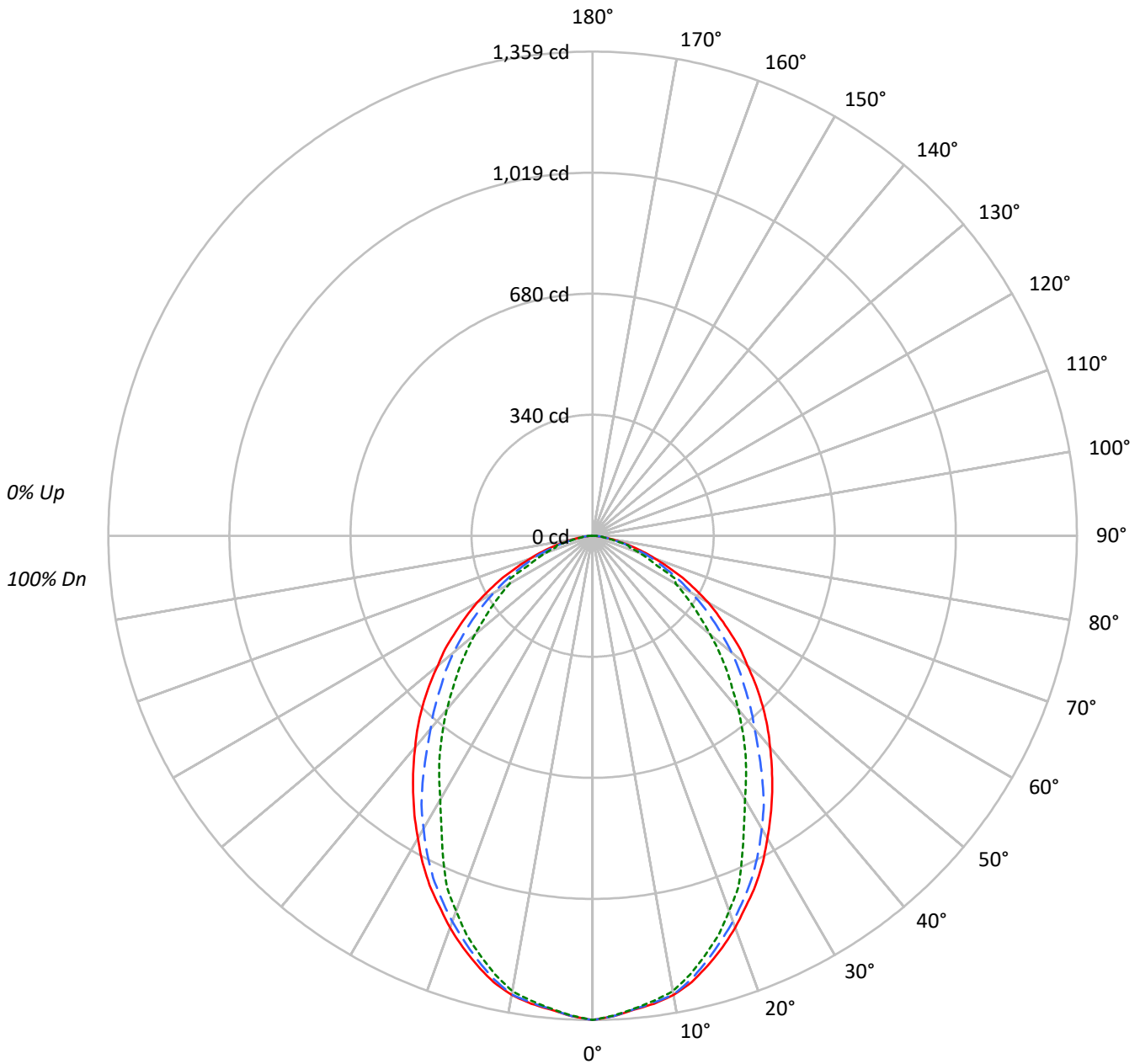
Lumens per Lamp: N/A
Luminaire Lumens: 2668.0 lumens
Efficiency: N/A
Efficacy: 80.1 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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: P546021

CATALOG NUMBER: FMR-12-4-LD4-1STD-35-UNV-81-96-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°	3657	3657	3657
5°	3608	3603	3599
10°	3576	3572	3546
15°	3480	3445	3397
20°	3352	3298	3208
25°	3214	3144	2948
30°	3046	2949	2656
35°	2885	2725	2457
40°	2721	2484	2235
45°	2565	2296	2021
50°	2375	2131	1802
55°	2197	1931	1614
60°	2012	1725	1446
65°	1771	1510	1280
70°	1459	1323	1088
75°	1160	1013	1062
80°	779	730	682
85°	485	584	679



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	126.5	4.7
10°-20°	347.2	13.0
20°-30°	480.7	18.0
30°-40°	512.5	19.2
40°-50°	467.6	17.5
50°-60°	366.3	13.7
60°-70°	238.8	8.9
70°-80°	105.8	4.0
80°-90°	22.7	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°	954.4	35.8
0°-40°	1466.9	55.0
0°-60°	2300.8	86.2
0°-90°	2668.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2668.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1359	1359	1359	1359	1359	
5°	1336	1334	1334	1332	1332	127
15°	1249	1249	1236	1224	1219	351
25°	1082	1076	1059	1021	993	497
35°	878	872	830	767	748	549
45°	674	660	603	553	531	519
55°	468	454	412	363	344	420
65°	278	262	237	242	201	274
75°	112	104	97	93	102	120
85°	16	17	19	20	22	22
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1359.0	1359.0	1359.0	1359.0	1359.0
2.5°	1349.6	1349.6	1349.6	1348.0	1348.0
5°	1335.5	1333.9	1333.9	1332.3	1332.3
7.5°	1324.5	1322.9	1321.3	1319.8	1316.6
10°	1308.8	1308.8	1307.2	1299.3	1297.8
12.5°	1283.6	1282.1	1275.8	1264.8	1261.6
15°	1249.1	1249.1	1236.5	1223.9	1219.2
17.5°	1211.4	1209.8	1194.1	1181.5	1175.2
20°	1170.5	1167.4	1151.7	1131.2	1120.2
22.5°	1124.9	1124.9	1106.1	1079.4	1068.4
25°	1082.5	1076.2	1059.0	1021.2	993.0
27.5°	1033.8	1024.4	1005.5	952.1	919.1
30°	980.4	975.7	949.0	879.8	854.7
32.5°	930.1	922.3	894.0	821.7	801.3
35°	878.3	872.0	829.6	766.7	747.9
37.5°	826.4	818.6	765.1	714.9	691.3
40°	774.6	765.1	707.0	661.5	636.3
42.5°	725.9	713.3	656.7	608.0	579.8
45°	674.0	659.9	603.3	553.0	531.0
47.5°	622.2	609.6	557.8	505.9	480.8
50°	567.2	556.2	509.1	457.2	430.5
52.5°	521.6	504.3	458.8	406.9	384.9
55°	468.2	454.1	411.6	362.9	344.1
57.5°	419.5	405.4	366.1	320.5	304.8
60°	373.9	353.5	320.5	281.2	268.7
62.5°	323.7	307.9	279.7	246.7	262.4
65°	278.1	262.4	237.2	242.0	201.1
67.5°	227.8	220.0	198.0	176.0	169.7
70°	185.4	176.0	168.1	144.5	138.3
72.5°	147.7	138.3	127.3	114.7	110.0
75°	111.6	103.7	97.4	92.7	102.1
77.5°	77.0	73.8	69.1	64.4	62.8
80°	50.3	48.7	47.1	45.6	44.0
82.5°	29.9	29.9	29.9	29.9	29.9
85°	15.7	17.3	18.9	20.4	22.0
87.5°	9.4	9.4	11.0	12.6	14.1
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)