

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: P546053

Luminaire Tested: **FMR-12-4-LD4-1STD-40-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: P546053
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-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 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

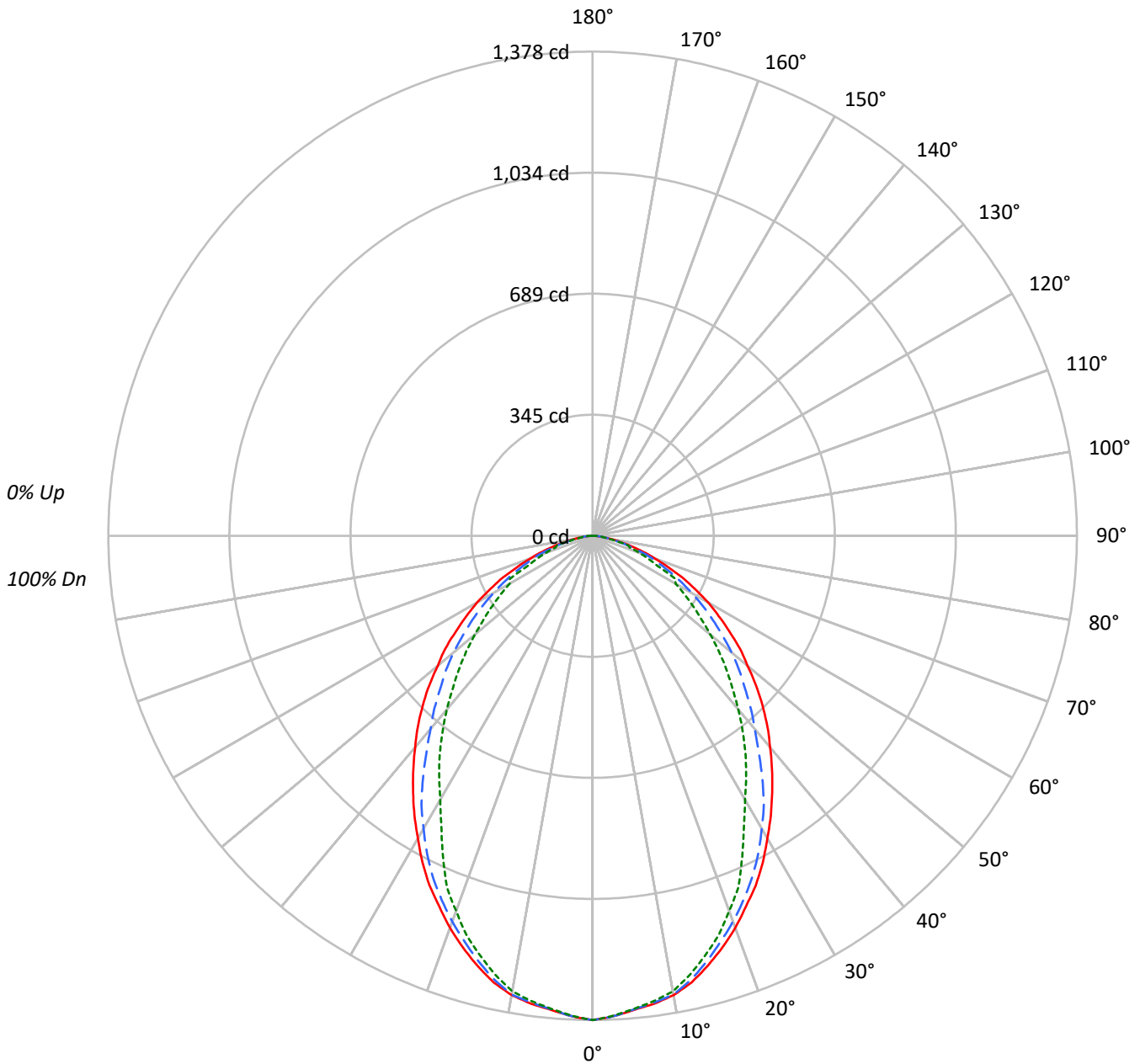
Lumens per Lamp: N/A
Luminaire Lumens: 2706.0 lumens
Efficiency: N/A
Efficacy: 81.3 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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°	3709	3709	3709
5°	3659	3655	3650
10°	3627	3623	3597
15°	3529	3494	3445
20°	3400	3345	3254
25°	3260	3189	2990
30°	3090	2991	2694
35°	2926	2764	2492
40°	2760	2519	2267
45°	2602	2329	2050
50°	2408	2161	1828
55°	2228	1959	1637
60°	2041	1750	1467
65°	1796	1532	1299
70°	1479	1341	1103
75°	1176	1027	1077
80°	790	741	691
85°	491	590	689



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	128.3	4.7
10°-20°	352.1	13.0
20°-30°	487.5	18.0
30°-40°	519.8	19.2
40°-50°	474.2	17.5
50°-60°	371.5	13.7
60°-70°	242.1	8.9
70°-80°	107.3	4.0
80°-90°	23.0	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°	968.0	35.8
0°-40°	1487.8	55.0
0°-60°	2333.5	86.2
0°-90°	2706.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2706.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1378	1378	1378	1378	1378	
5°	1354	1353	1353	1351	1351	129
15°	1267	1267	1254	1241	1237	356
25°	1098	1092	1074	1036	1007	504
35°	891	884	841	778	758	557
45°	684	669	612	561	539	527
55°	475	460	418	368	349	426
65°	282	266	241	245	204	278
75°	113	105	99	94	104	121
85°	16	18	19	21	22	22
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1378.4	1378.4	1378.4	1378.4	1378.4
2.5°	1368.8	1368.8	1368.8	1367.2	1367.2
5°	1354.5	1352.9	1352.9	1351.3	1351.3
7.5°	1343.3	1341.7	1340.2	1338.6	1335.4
10°	1327.4	1327.4	1325.8	1317.8	1316.3
12.5°	1301.9	1300.3	1293.9	1282.8	1279.6
15°	1266.9	1266.9	1254.1	1241.4	1236.6
17.5°	1228.6	1227.0	1211.1	1198.3	1192.0
20°	1187.2	1184.0	1168.1	1147.3	1136.2
22.5°	1141.0	1141.0	1121.8	1094.8	1083.6
25°	1097.9	1091.6	1074.0	1035.8	1007.1
27.5°	1048.5	1039.0	1019.9	965.7	932.2
30°	994.4	989.6	962.5	892.4	866.9
32.5°	943.4	935.4	906.7	833.4	812.7
35°	890.8	884.4	841.4	777.6	758.5
37.5°	838.2	830.2	776.0	725.1	701.2
40°	785.6	776.0	717.1	670.9	645.4
42.5°	736.2	723.5	666.1	616.7	588.0
45°	683.6	669.3	611.9	560.9	538.6
47.5°	631.0	618.3	565.7	513.1	487.6
50°	575.3	564.1	516.3	463.7	436.6
52.5°	529.1	511.5	465.3	412.7	390.4
55°	474.9	460.5	417.5	368.1	349.0
57.5°	425.5	411.1	371.3	325.1	309.1
60°	379.3	358.5	325.1	285.2	272.5
62.5°	328.3	312.3	283.6	250.2	266.1
65°	282.1	266.1	240.6	245.4	204.0
67.5°	231.1	223.1	200.8	178.5	172.1
70°	188.0	178.5	170.5	146.6	140.2
72.5°	149.8	140.2	129.1	116.3	111.5
75°	113.1	105.2	98.8	94.0	103.6
77.5°	78.1	74.9	70.1	65.3	63.7
80°	51.0	49.4	47.8	46.2	44.6
82.5°	30.3	30.3	30.3	30.3	30.3
85°	15.9	17.5	19.1	20.7	22.3
87.5°	9.6	9.6	11.2	12.7	14.3
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)