

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: P546089

Luminaire Tested: **FMR-12-4-LD4-1STD-50-UNV-82-86-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: P546089
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-82-86-EDD
Description: 1X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

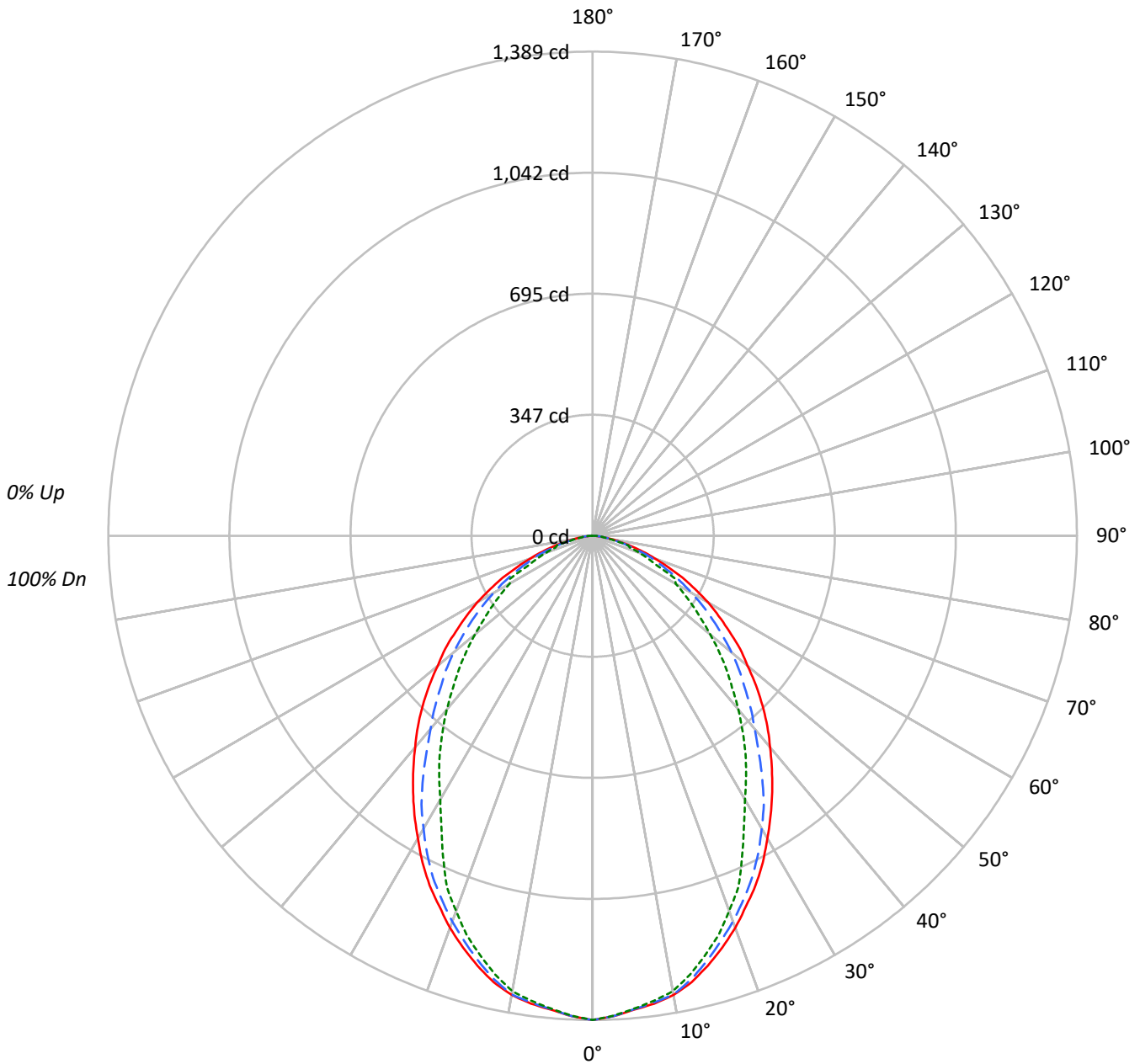
Lumens per Lamp: N/A
Luminaire Lumens: 2727.0 lumens
Efficiency: N/A
Efficacy: 81.9 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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°	3738	3738	3738
5°	3687	3683	3679
10°	3655	3651	3625
15°	3557	3521	3472
20°	3426	3371	3279
25°	3285	3214	3013
30°	3114	3014	2715
35°	2949	2785	2511
40°	2781	2539	2285
45°	2622	2347	2066
50°	2427	2178	1842
55°	2245	1974	1650
60°	2057	1763	1478
65°	1810	1544	1309
70°	1491	1352	1112
75°	1185	1036	1085
80°	797	747	697
85°	497	596	695



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	129.3	4.7
10°-20°	354.9	13.0
20°-30°	491.3	18.0
30°-40°	523.9	19.2
40°-50°	477.9	17.5
50°-60°	374.4	13.7
60°-70°	244.0	8.9
70°-80°	108.1	4.0
80°-90°	23.2	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°	975.5	35.8
0°-40°	1499.3	55.0
0°-60°	2351.7	86.2
0°-90°	2727.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2727.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1389	1389	1389	1389	1389	
5°	1365	1363	1363	1362	1362	130
15°	1277	1277	1264	1251	1246	359
25°	1106	1100	1082	1044	1015	508
35°	898	891	848	784	764	561
45°	689	674	617	565	543	531
55°	479	464	421	371	352	429
65°	284	268	242	247	206	280
75°	114	106	100	95	104	122
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°	1389.1	1389.1	1389.1	1389.1	1389.1
2.5°	1379.5	1379.5	1379.5	1377.9	1377.9
5°	1365.0	1363.4	1363.4	1361.8	1361.8
7.5°	1353.8	1352.2	1350.6	1349.0	1345.7
10°	1337.7	1337.7	1336.1	1328.1	1326.5
12.5°	1312.0	1310.4	1304.0	1292.7	1289.5
15°	1276.7	1276.7	1263.8	1251.0	1246.2
17.5°	1238.1	1236.5	1220.5	1207.6	1201.2
20°	1196.4	1193.2	1177.1	1156.2	1145.0
22.5°	1149.8	1149.8	1130.5	1103.2	1092.0
25°	1106.5	1100.0	1082.4	1043.8	1014.9
27.5°	1056.7	1047.0	1027.8	973.2	939.4
30°	1002.1	997.3	970.0	899.3	873.6
32.5°	950.7	942.7	913.8	839.9	819.0
35°	897.7	891.3	847.9	783.7	764.4
37.5°	844.7	836.7	782.1	730.7	706.6
40°	791.7	782.1	722.7	676.1	650.4
42.5°	741.9	729.1	671.3	621.5	592.6
45°	688.9	674.5	616.7	565.3	542.8
47.5°	635.9	623.1	570.1	517.1	491.4
50°	579.7	568.5	520.3	467.3	440.0
52.5°	533.2	515.5	468.9	415.9	393.4
55°	478.6	464.1	420.7	371.0	351.7
57.5°	428.8	414.3	374.2	327.6	311.5
60°	382.2	361.3	327.6	287.5	274.6
62.5°	330.8	314.8	285.8	252.1	268.2
65°	284.2	268.2	242.5	247.3	205.6
67.5°	232.9	224.8	202.3	179.9	173.4
70°	189.5	179.9	171.8	147.7	141.3
72.5°	151.0	141.3	130.1	117.2	112.4
75°	114.0	106.0	99.6	94.7	104.4
77.5°	78.7	75.5	70.7	65.8	64.2
80°	51.4	49.8	48.2	46.6	45.0
82.5°	30.5	30.5	30.5	30.5	30.5
85°	16.1	17.7	19.3	20.9	22.5
87.5°	9.6	9.6	11.2	12.8	14.5
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)