

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: P545835

Luminaire Tested: **FMR-12-4-LD4-1HI-35-UNV-82-88-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: P545835
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-LD4-1HI-35-UNV-82-88-EDD
Description: 1X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

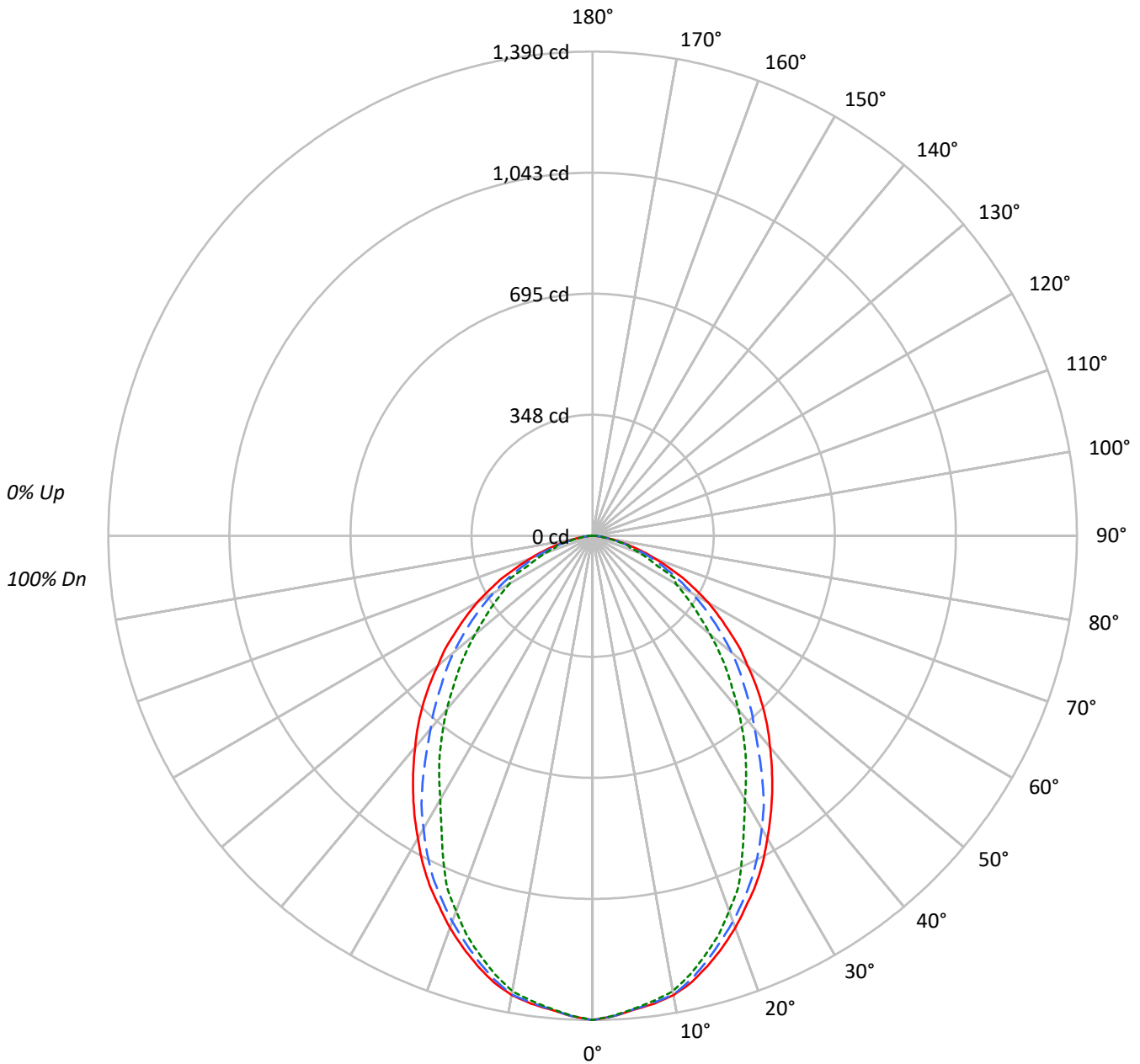
Lumens per Lamp: N/A
Luminaire Lumens: 2729.0 lumens
Efficiency: N/A
Efficacy: 63.2 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 43.2
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°	3741	3741	3741
5°	3690	3686	3681
10°	3658	3654	3627
15°	3559	3524	3474
20°	3429	3373	3281
25°	3288	3216	3016
30°	3116	3016	2716
35°	2951	2787	2513
40°	2783	2540	2286
45°	2624	2348	2067
50°	2429	2180	1843
55°	2247	1976	1651
60°	2059	1764	1479
65°	1812	1545	1310
70°	1492	1353	1113
75°	1186	1036	1087
80°	797	747	697
85°	497	596	695



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	129.4	4.7
10°-20°	355.1	13.0
20°-30°	491.7	18.0
30°-40°	524.2	19.2
40°-50°	478.3	17.5
50°-60°	374.7	13.7
60°-70°	244.2	8.9
70°-80°	108.2	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°	976.2	35.8
0°-40°	1500.4	55.0
0°-60°	2353.4	86.2
0°-90°	2729.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2729.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1390	1390	1390	1390	1390	
5°	1366	1364	1364	1363	1363	130
15°	1278	1278	1265	1252	1247	359
25°	1107	1101	1083	1045	1016	508
35°	898	892	848	784	765	562
45°	689	675	617	566	543	531
55°	479	464	421	371	352	430
65°	284	268	243	248	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°	1390.1	1390.1	1390.1	1390.1	1390.1
2.5°	1380.5	1380.5	1380.5	1378.9	1378.9
5°	1366.0	1364.4	1364.4	1362.8	1362.8
7.5°	1354.8	1353.2	1351.5	1349.9	1346.7
10°	1338.7	1338.7	1337.1	1329.0	1327.4
12.5°	1313.0	1311.4	1304.9	1293.7	1290.5
15°	1277.6	1277.6	1264.8	1251.9	1247.1
17.5°	1239.1	1237.4	1221.4	1208.5	1202.1
20°	1197.3	1194.1	1178.0	1157.1	1145.8
22.5°	1150.7	1150.7	1131.4	1104.1	1092.8
25°	1107.3	1100.8	1083.2	1044.6	1015.7
27.5°	1057.5	1047.8	1028.5	973.9	940.1
30°	1002.8	998.0	970.7	900.0	874.2
32.5°	951.4	943.4	914.4	840.5	819.6
35°	898.4	891.9	848.5	784.3	765.0
37.5°	845.3	837.3	782.6	731.2	707.1
40°	792.3	782.6	723.2	676.6	650.9
42.5°	742.5	729.6	671.8	621.9	593.0
45°	689.4	675.0	617.1	565.7	543.2
47.5°	636.4	623.5	570.5	517.5	491.8
50°	580.2	568.9	520.7	467.7	440.3
52.5°	533.5	515.9	469.3	416.2	393.7
55°	478.9	464.4	421.1	371.2	351.9
57.5°	429.1	414.6	374.4	327.8	311.8
60°	382.5	361.6	327.8	287.7	274.8
62.5°	331.1	315.0	286.1	252.3	268.4
65°	284.5	268.4	242.7	247.5	205.7
67.5°	233.0	225.0	202.5	180.0	173.6
70°	189.6	180.0	172.0	147.9	141.4
72.5°	151.1	141.4	130.2	117.3	112.5
75°	114.1	106.1	99.6	94.8	104.5
77.5°	78.7	75.5	70.7	65.9	64.3
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	12.9	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)