

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: P546018

Luminaire Tested: **FMR-12-4-LD4-1STD-35-UNV-81-87-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: P546018
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-81-87-EDD
Description: 1X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

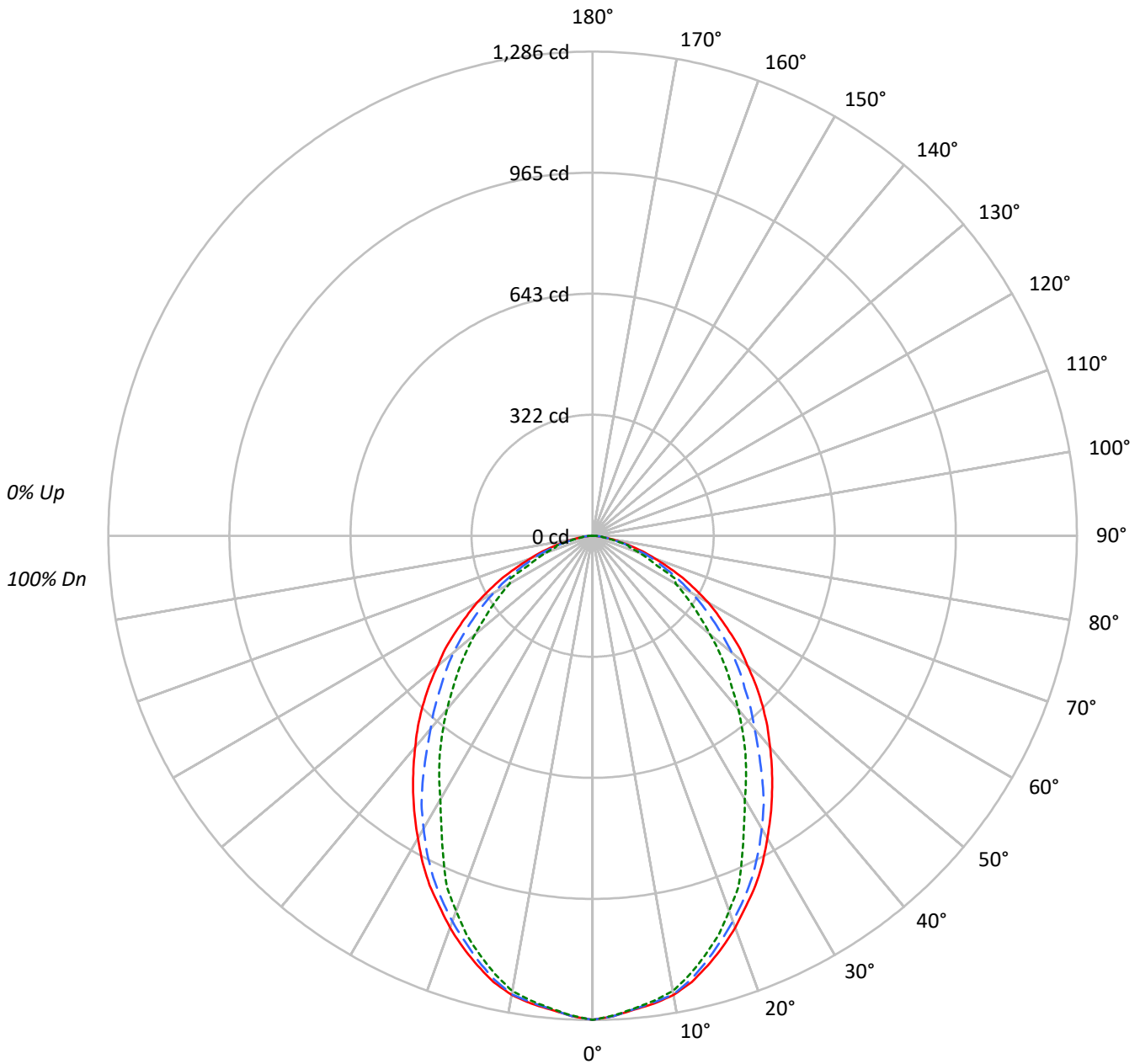
Lumens per Lamp: N/A
Luminaire Lumens: 2524.0 lumens
Efficiency: N/A
Efficacy: 75.8 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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°	3460	3460	3460
5°	3413	3409	3405
10°	3383	3379	3355
15°	3292	3259	3213
20°	3171	3120	3035
25°	3041	2975	2789
30°	2882	2790	2513
35°	2730	2578	2324
40°	2574	2350	2115
45°	2426	2172	1912
50°	2246	2016	1705
55°	2078	1827	1527
60°	1904	1632	1368
65°	1675	1429	1212
70°	1380	1251	1029
75°	1097	959	1004
80°	738	691	645
85°	460	550	642



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	119.7	4.7
10°-20°	328.5	13.0
20°-30°	454.7	18.0
30°-40°	484.9	19.2
40°-50°	442.3	17.5
50°-60°	346.5	13.7
60°-70°	225.9	8.9
70°-80°	100.1	4.0
80°-90°	21.5	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°	902.9	35.8
0°-40°	1387.7	55.0
0°-60°	2176.6	86.2
0°-90°	2524.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2524.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1286	1286	1286	1286	1286	
5°	1263	1262	1262	1260	1260	120
15°	1182	1182	1170	1158	1153	332
25°	1024	1018	1002	966	939	470
35°	831	825	785	725	708	519
45°	638	624	571	523	502	491
55°	443	430	389	343	326	397
65°	263	248	224	229	190	259
75°	106	98	92	88	97	113
85°	15	16	18	19	21	21
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1285.7	1285.7	1285.7	1285.7	1285.7
2.5°	1276.8	1276.8	1276.8	1275.3	1275.3
5°	1263.4	1261.9	1261.9	1260.4	1260.4
7.5°	1253.0	1251.5	1250.0	1248.5	1245.6
10°	1238.1	1238.1	1236.6	1229.2	1227.7
12.5°	1214.3	1212.9	1206.9	1196.5	1193.5
15°	1181.6	1181.6	1169.8	1157.9	1153.4
17.5°	1146.0	1144.5	1129.6	1117.7	1111.8
20°	1107.3	1104.4	1089.5	1070.2	1059.8
22.5°	1064.2	1064.2	1046.4	1021.1	1010.7
25°	1024.1	1018.1	1001.8	966.1	939.4
27.5°	978.0	969.1	951.3	900.7	869.5
30°	927.5	923.0	897.8	832.4	808.6
32.5°	879.9	872.5	845.7	777.4	758.0
35°	830.9	824.9	784.8	725.3	707.5
37.5°	781.8	774.4	723.9	676.3	654.0
40°	732.8	723.9	668.9	625.8	602.0
42.5°	686.7	674.8	621.3	575.2	548.5
45°	637.6	624.3	570.8	523.2	502.4
47.5°	588.6	576.7	527.7	478.6	454.8
50°	536.6	526.2	481.6	432.5	407.3
52.5°	493.5	477.1	434.0	385.0	364.2
55°	442.9	429.6	389.4	343.3	325.5
57.5°	396.9	383.5	346.3	303.2	288.4
60°	353.8	334.4	303.2	266.1	254.2
62.5°	306.2	291.3	264.6	233.4	248.2
65°	263.1	248.2	224.4	228.9	190.3
67.5°	215.5	208.1	187.3	166.5	160.5
70°	175.4	166.5	159.0	136.7	130.8
72.5°	139.7	130.8	120.4	108.5	104.0
75°	105.5	98.1	92.2	87.7	96.6
77.5°	72.8	69.9	65.4	60.9	59.5
80°	47.6	46.1	44.6	43.1	41.6
82.5°	28.2	28.2	28.2	28.2	28.2
85°	14.9	16.3	17.8	19.3	20.8
87.5°	8.9	8.9	10.4	11.9	13.4
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)