

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: P546083

Luminaire Tested: **FMR-12-4-LD4-1STD-50-UNV-81-88-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: P546083
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-81-88-EDD
Description: 1X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

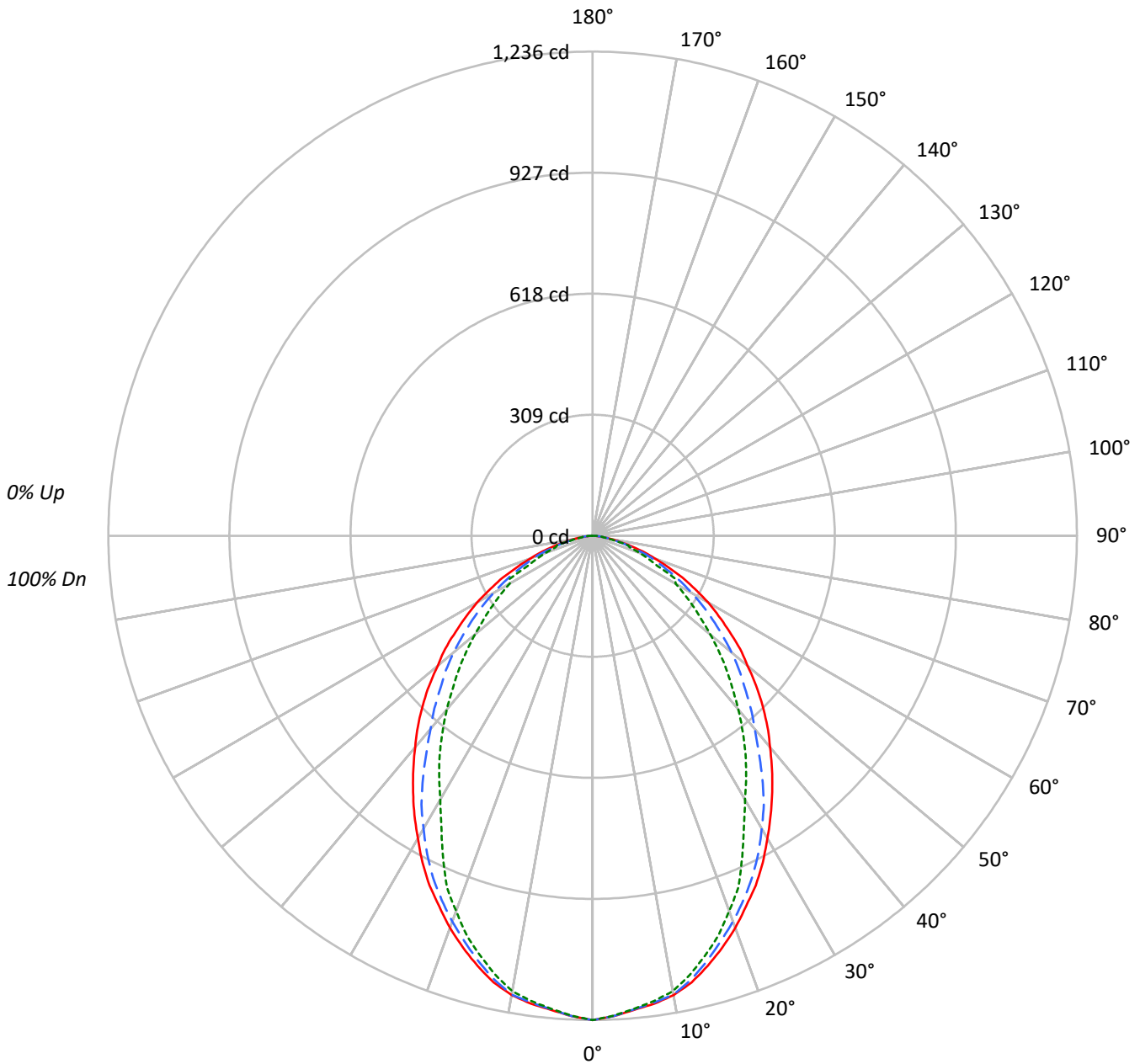
Lumens per Lamp: N/A
Luminaire Lumens: 2427.0 lumens
Efficiency: N/A
Efficacy: 72.9 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 33.3
Input Voltage (V): NR
Input Current (A_{in}): 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°	3327	3327	3327
5°	3281	3278	3274
10°	3253	3249	3226
15°	3165	3134	3090
20°	3049	3000	2918
25°	2924	2860	2682
30°	2771	2683	2416
35°	2624	2479	2235
40°	2475	2259	2033
45°	2333	2089	1838
50°	2160	1939	1639
55°	1998	1757	1468
60°	1831	1569	1315
65°	1611	1374	1165
70°	1327	1203	990
75°	1055	921	966
80°	708	665	620
85°	442	531	618



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	115.1	4.7
10°-20°	315.8	13.0
20°-30°	437.2	18.0
30°-40°	466.2	19.2
40°-50°	425.3	17.5
50°-60°	333.2	13.7
60°-70°	217.2	8.9
70°-80°	96.2	4.0
80°-90°	20.7	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°	868.2	35.8
0°-40°	1334.4	55.0
0°-60°	2092.9	86.2
0°-90°	2427.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2427.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1236	1236	1236	1236	1236	
5°	1215	1213	1213	1212	1212	115
15°	1136	1136	1125	1113	1109	319
25°	985	979	963	929	903	452
35°	799	793	755	698	680	499
45°	613	600	549	503	483	472
55°	426	413	374	330	313	382
65°	253	239	216	220	183	249
75°	102	94	89	84	93	109
85°	14	16	17	19	20	20
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1236.3	1236.3	1236.3	1236.3	1236.3
2.5°	1227.7	1227.7	1227.7	1226.3	1226.3
5°	1214.8	1213.4	1213.4	1212.0	1212.0
7.5°	1204.8	1203.4	1202.0	1200.6	1197.7
10°	1190.5	1190.5	1189.1	1182.0	1180.5
12.5°	1167.7	1166.2	1160.5	1150.5	1147.7
15°	1136.2	1136.2	1124.8	1113.4	1109.1
17.5°	1101.9	1100.5	1086.2	1074.8	1069.1
20°	1064.8	1061.9	1047.6	1029.0	1019.0
22.5°	1023.3	1023.3	1006.2	981.9	971.9
25°	984.7	979.0	963.3	929.0	903.3
27.5°	940.4	931.9	914.7	866.1	836.1
30°	891.8	887.5	863.3	800.4	777.5
32.5°	846.1	839.0	813.2	747.5	728.9
35°	798.9	793.2	754.6	697.5	680.3
37.5°	751.8	744.6	696.0	650.3	628.9
40°	704.6	696.0	643.2	601.7	578.8
42.5°	660.3	648.9	597.4	553.1	527.4
45°	613.1	600.3	548.8	503.1	483.1
47.5°	566.0	554.5	507.4	460.2	437.3
50°	516.0	505.9	463.1	415.9	391.6
52.5°	474.5	458.8	417.3	370.2	350.2
55°	425.9	413.0	374.5	330.2	313.0
57.5°	381.6	368.7	333.0	291.6	277.3
60°	340.2	321.6	291.6	255.8	244.4
62.5°	294.4	280.1	254.4	224.4	238.7
65°	253.0	238.7	215.8	220.1	182.9
67.5°	207.2	200.1	180.1	160.1	154.4
70°	168.6	160.1	152.9	131.5	125.8
72.5°	134.3	125.8	115.8	104.3	100.0
75°	101.5	94.3	88.6	84.3	92.9
77.5°	70.0	67.2	62.9	58.6	57.2
80°	45.7	44.3	42.9	41.4	40.0
82.5°	27.2	27.2	27.2	27.2	27.2
85°	14.3	15.7	17.2	18.6	20.0
87.5°	8.6	8.6	10.0	11.4	12.9
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)