

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: P545875

Luminaire Tested: **FMR-12-4-LD4-1HI-40-UNV-93-88-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: P545875
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-40-UNV-93-88-EDD
Description: 1X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

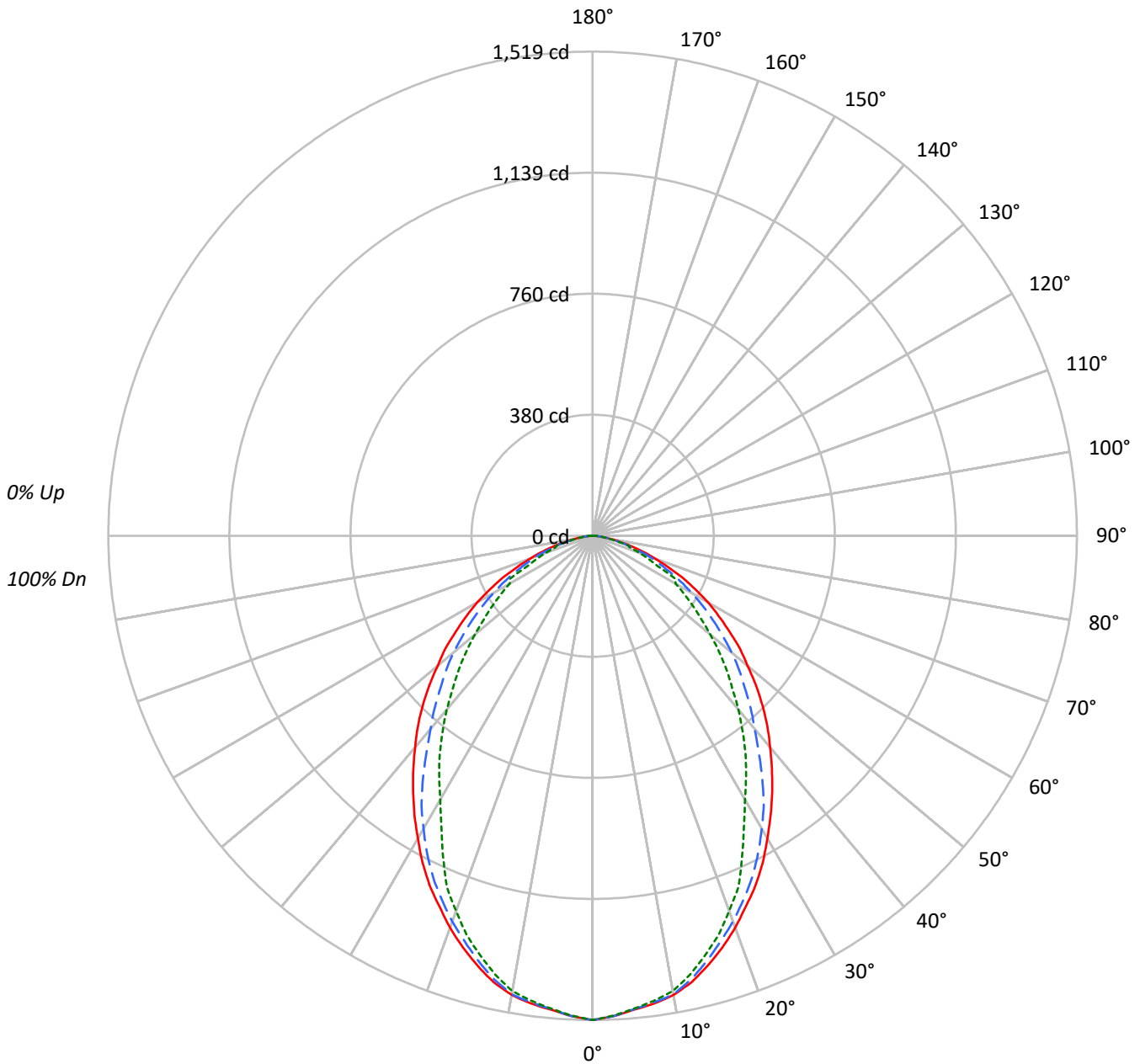
Lumens per Lamp: N/A
Luminaire Lumens: 2982.0 lumens
Efficiency: N/A
Efficacy: 69.0 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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°	4088	4088	4088
5°	4032	4027	4022
10°	3997	3992	3963
15°	3889	3850	3796
20°	3747	3686	3586
25°	3592	3514	3295
30°	3405	3296	2968
35°	3225	3046	2746
40°	3041	2776	2498
45°	2867	2566	2259
50°	2654	2382	2015
55°	2455	2159	1804
60°	2249	1928	1616
65°	1979	1689	1431
70°	1630	1478	1216
75°	1297	1132	1186
80°	871	817	762
85°	543	651	760



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	141.4	4.7
10°-20°	388.1	13.0
20°-30°	537.2	18.0
30°-40°	572.8	19.2
40°-50°	522.6	17.5
50°-60°	409.4	13.7
60°-70°	266.8	8.9
70°-80°	118.2	4.0
80°-90°	25.4	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°	1066.7	35.8
0°-40°	1639.5	55.0
0°-60°	2571.6	86.2
0°-90°	2982.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2982.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1519	1519	1519	1519	1519	
5°	1493	1491	1491	1489	1489	142
15°	1396	1396	1382	1368	1363	392
25°	1210	1203	1184	1141	1110	555
35°	982	975	927	857	836	614
45°	753	738	674	618	594	580
55°	523	508	460	406	385	469
65°	311	293	265	270	225	306
75°	125	116	109	104	114	134
85°	18	19	21	23	25	24
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1519.0	1519.0	1519.0	1519.0	1519.0
2.5°	1508.5	1508.5	1508.5	1506.7	1506.7
5°	1492.7	1490.9	1490.9	1489.1	1489.1
7.5°	1480.4	1478.6	1476.8	1475.1	1471.6
10°	1462.8	1462.8	1461.0	1452.3	1450.5
12.5°	1434.7	1432.9	1425.9	1413.6	1410.1
15°	1396.1	1396.1	1382.0	1368.0	1362.7
17.5°	1353.9	1352.2	1334.6	1320.6	1313.5
20°	1308.3	1304.8	1287.2	1264.4	1252.1
22.5°	1257.3	1257.3	1236.3	1206.4	1194.1
25°	1209.9	1202.9	1183.6	1141.4	1109.8
27.5°	1155.5	1145.0	1123.9	1064.2	1027.3
30°	1095.8	1090.5	1060.7	983.4	955.3
32.5°	1039.6	1030.8	999.2	918.4	895.6
35°	981.6	974.6	927.2	857.0	835.9
37.5°	923.7	914.9	855.2	799.0	772.7
40°	865.7	855.2	790.2	739.3	711.2
42.5°	811.3	797.3	734.0	679.6	648.0
45°	753.3	737.5	674.3	618.1	593.5
47.5°	695.4	681.4	623.4	565.5	537.4
50°	633.9	621.6	569.0	511.0	481.2
52.5°	583.0	563.7	512.8	454.8	430.2
55°	523.3	507.5	460.1	405.6	384.6
57.5°	468.9	453.1	409.2	358.2	340.7
60°	417.9	395.1	358.2	314.3	300.3
62.5°	361.7	344.2	312.6	275.7	293.3
65°	310.8	293.3	265.2	270.4	224.8
67.5°	254.6	245.8	221.3	196.7	189.7
70°	207.2	196.7	187.9	161.6	154.5
72.5°	165.1	154.5	142.2	128.2	122.9
75°	124.7	115.9	108.9	103.6	114.1
77.5°	86.0	82.5	77.3	72.0	70.2
80°	56.2	54.4	52.7	50.9	49.2
82.5°	33.4	33.4	33.4	33.4	33.4
85°	17.6	19.3	21.1	22.8	24.6
87.5°	10.5	10.5	12.3	14.0	15.8
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)