

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: P545569

Luminaire Tested: **FMR-12-2-LD4-2HI-40-UNV-81-86-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: P545569
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-12-2-LD4-2HI-40-UNV-81-86-EDD
Description: 1X2 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

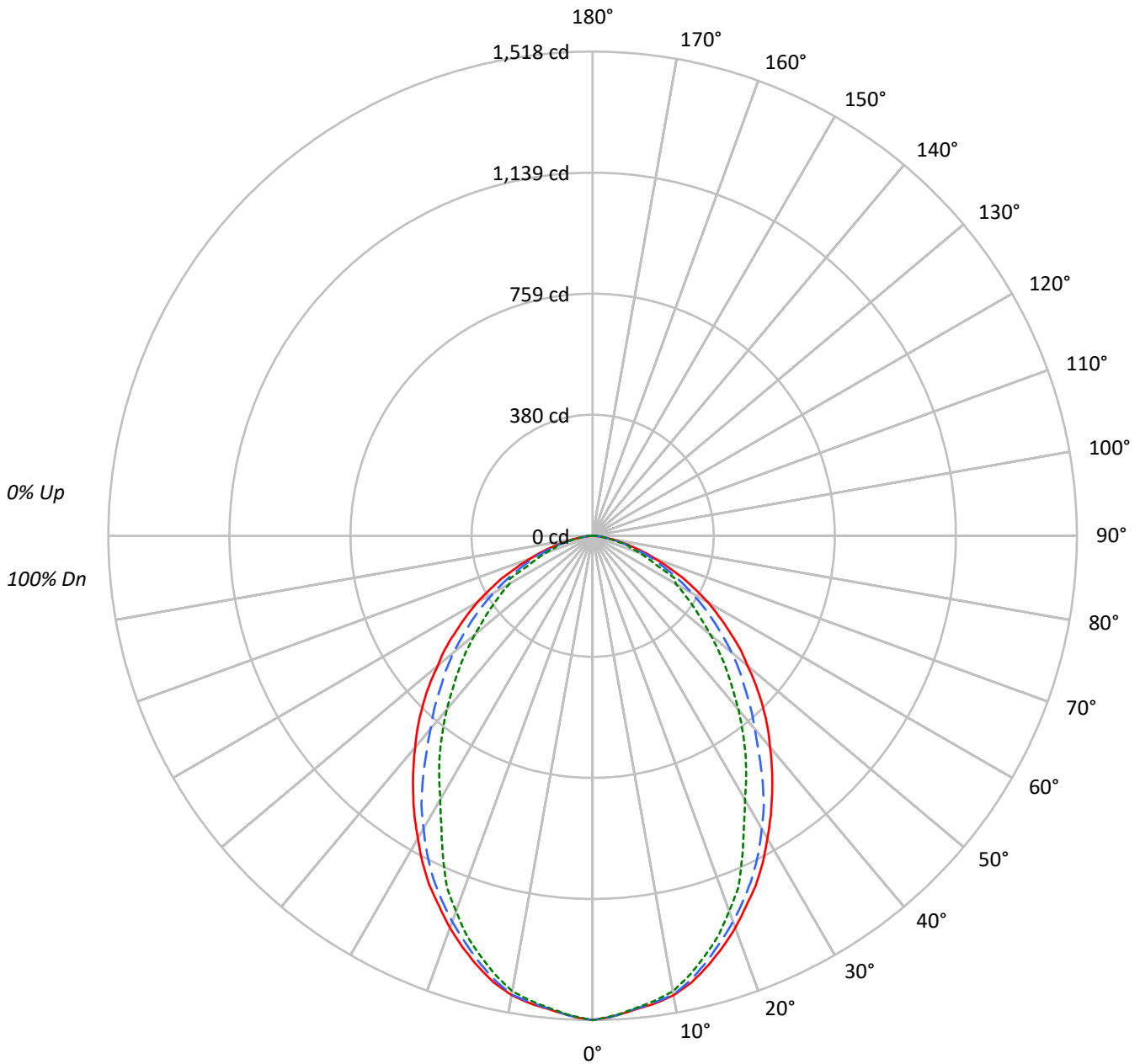
Lumens per Lamp: N/A
Luminaire Lumens: 2981.0 lumens
Efficiency: N/A
Efficacy: 69.0 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')
CIE Type: Direct

Input Watts (W): 43.2
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°	8173	8173	8173
5°	8061	8052	8042
10°	7991	7982	7924
15°	7776	7698	7590
20°	7490	7370	7169
25°	7182	7026	6589
30°	6807	6589	5935
35°	6447	6090	5490
40°	6080	5550	4995
45°	5732	5131	4516
50°	5306	4762	4027
55°	4908	4315	3607
60°	4497	3855	3231
65°	3957	3376	2862
70°	3259	2955	2431
75°	2591	2262	2373
80°	1742	1633	1525
85°	1087	1303	1519



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	141.4	4.7
10°-20°	387.9	13.0
20°-30°	537.1	18.0
30°-40°	572.7	19.2
40°-50°	522.4	17.5
50°-60°	409.3	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°	1066.3	35.8
0°-40°	1639.0	55.0
0°-60°	2570.7	86.2
0°-90°	2981.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2981.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1518	1518	1518	1518	1518	
5°	1492	1490	1490	1489	1489	142
15°	1396	1396	1382	1368	1362	392
25°	1210	1202	1183	1141	1110	555
35°	981	974	927	857	836	613
45°	753	737	674	618	593	580
55°	523	507	460	406	384	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°	1518.5	1518.5	1518.5	1518.5	1518.5
2.5°	1507.9	1507.9	1507.9	1506.2	1506.2
5°	1492.1	1490.4	1490.4	1488.6	1488.6
7.5°	1479.9	1478.1	1476.4	1474.6	1471.1
10°	1462.3	1462.3	1460.6	1451.8	1450.0
12.5°	1434.2	1432.5	1425.4	1413.2	1409.6
15°	1395.6	1395.6	1381.6	1367.5	1362.2
17.5°	1353.5	1351.7	1334.2	1320.1	1313.1
20°	1307.8	1304.3	1286.8	1263.9	1251.7
22.5°	1256.9	1256.9	1235.9	1206.0	1193.7
25°	1209.5	1202.5	1183.2	1141.1	1109.5
27.5°	1155.1	1144.6	1123.5	1063.8	1026.9
30°	1095.4	1090.1	1060.3	983.1	955.0
32.5°	1039.2	1030.5	998.9	918.1	895.3
35°	981.3	974.3	926.9	856.7	835.6
37.5°	923.4	914.6	854.9	798.7	772.4
40°	865.4	854.9	790.0	739.1	711.0
42.5°	811.0	797.0	733.8	679.4	647.8
45°	753.1	737.3	674.1	617.9	593.3
47.5°	695.2	681.1	623.2	565.3	537.2
50°	633.7	621.4	568.8	510.8	481.0
52.5°	582.8	563.5	512.6	454.7	430.1
55°	523.1	507.3	459.9	405.5	384.4
57.5°	468.7	452.9	409.0	358.1	340.6
60°	417.8	395.0	358.1	314.2	300.2
62.5°	361.6	344.1	312.5	275.6	293.2
65°	310.7	293.2	265.1	270.3	224.7
67.5°	254.5	245.8	221.2	196.6	189.6
70°	207.1	196.6	187.8	161.5	154.5
72.5°	165.0	154.5	142.2	128.1	122.9
75°	124.6	115.9	108.8	103.6	114.1
77.5°	86.0	82.5	77.2	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)