

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: P545586

Luminaire Tested: **FMR-12-2-LD4-2HI-40-UNV-93-87-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: P545586
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-93-87-EDD
Description: 1X2 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

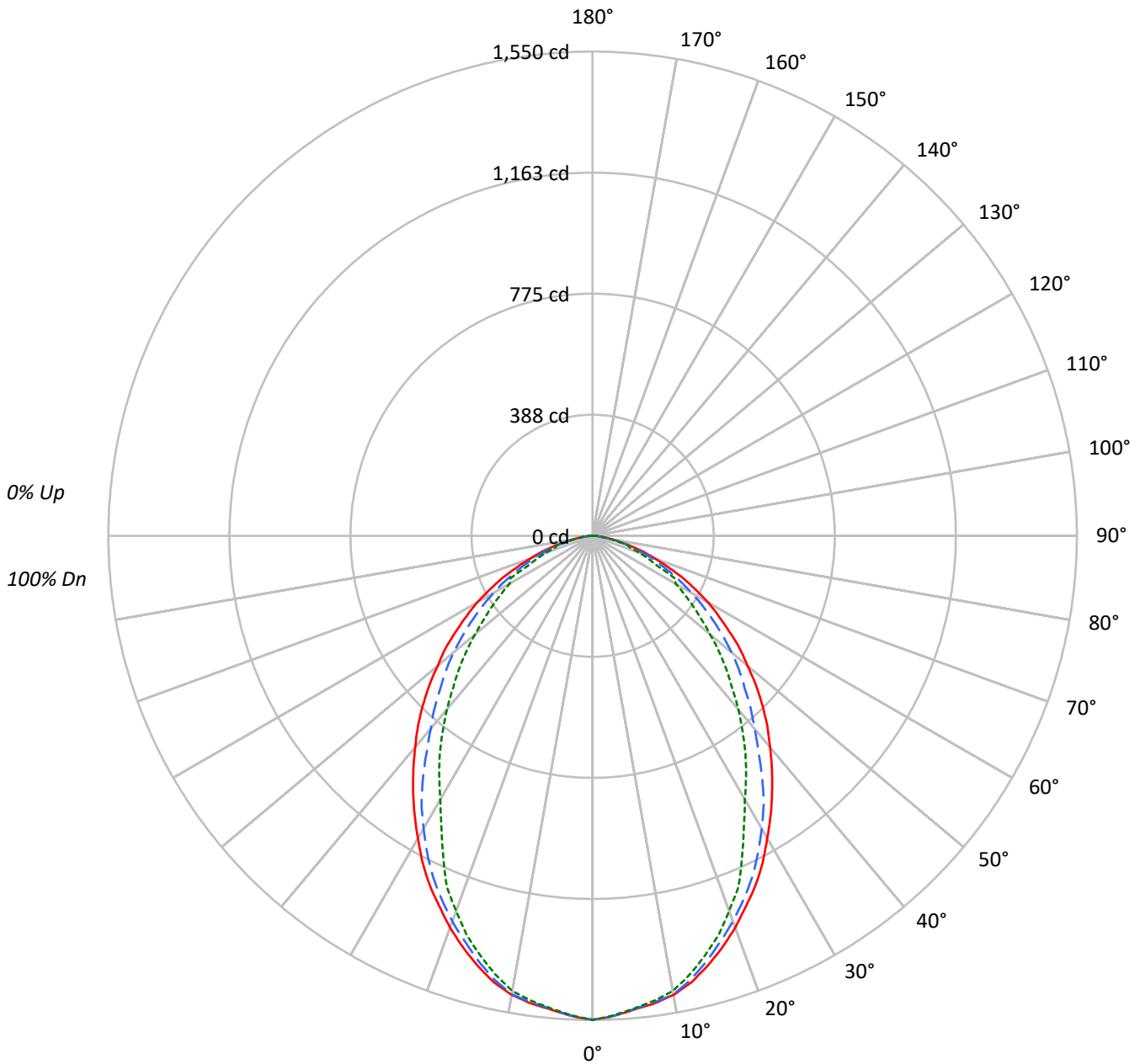
Lumens per Lamp: N/A
Luminaire Lumens: 3042.0 lumens
Efficiency: N/A
Efficacy: 70.4 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')
CIE Type: Direct

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

TEST NUMBER: P545586

CATALOG NUMBER: FMR-12-2-LD4-2HI-40-UNV-93-87-EDD

Luminous Intensity Polar Plot





TEST NUMBER: P545586

CATALOG NUMBER: FMR-12-2-LD4-2HI-40-UNV-93-87-EDD

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°	8340	8340	8340
5°	8226	8217	8207
10°	8155	8145	8087
15°	7935	7855	7745
20°	7644	7521	7316
25°	7330	7170	6723
30°	6947	6724	6056
35°	6579	6215	5602
40°	6205	5663	5097
45°	5849	5236	4609
50°	5415	4860	4109
55°	5009	4404	3681
60°	4590	3933	3297
65°	4038	3445	2920
70°	3327	3017	2480
75°	2645	2310	2420
80°	1776	1664	1556
85°	1105	1328	1550



TEST NUMBER: P545586

CATALOG NUMBER: FMR-12-2-LD4-2HI-40-UNV-93-87-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	144.2	4.7
10°-20°	395.9	13.0
20°-30°	548.0	18.0
30°-40°	584.4	19.2
40°-50°	533.1	17.5
50°-60°	417.7	13.7
60°-70°	272.2	8.9
70°-80°	120.6	4.0
80°-90°	25.9	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°	1088.2	35.8
0°-40°	1672.5	55.0
0°-60°	2623.3	86.2
0°-90°	3042.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3042.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1550	1550	1550	1550	1550	
5°	1523	1521	1521	1519	1519	145
15°	1424	1424	1410	1396	1390	400
25°	1234	1227	1207	1164	1132	567
35°	1001	994	946	874	853	626
45°	768	752	688	631	606	592
55°	534	518	469	414	392	479
65°	317	299	270	276	229	312
75°	127	118	111	106	116	136
85°	18	20	22	23	25	25
90°	0	0	0	0	0	



TEST NUMBER: P545586

CATALOG NUMBER: FMR-12-2-LD4-2HI-40-UNV-93-87-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1549.6	1549.6	1549.6	1549.6	1549.6
2.5°	1538.8	1538.8	1538.8	1537.0	1537.0
5°	1522.7	1520.9	1520.9	1519.1	1519.1
7.5°	1510.1	1508.4	1506.6	1504.8	1501.2
10°	1492.2	1492.2	1490.4	1481.5	1479.7
12.5°	1463.6	1461.8	1454.6	1442.1	1438.5
15°	1424.2	1424.2	1409.8	1395.5	1390.1
17.5°	1381.2	1379.4	1361.5	1347.1	1340.0
20°	1334.6	1331.0	1313.1	1289.8	1277.3
22.5°	1282.6	1282.6	1261.1	1230.7	1218.1
25°	1234.3	1227.1	1207.4	1164.4	1132.2
27.5°	1178.7	1168.0	1146.5	1085.6	1048.0
30°	1117.8	1112.5	1082.0	1003.2	974.5
32.5°	1060.5	1051.5	1019.3	936.9	913.6
35°	1001.4	994.2	945.9	874.2	852.7
37.5°	942.3	933.3	872.4	815.1	788.2
40°	883.2	872.4	806.1	754.2	725.5
42.5°	827.6	813.3	748.8	693.3	661.0
45°	768.5	752.4	687.9	630.6	605.5
47.5°	709.4	695.1	635.9	576.8	548.2
50°	646.7	634.2	580.4	521.3	490.8
52.5°	594.7	575.0	523.1	464.0	438.9
55°	533.8	517.7	469.3	413.8	392.3
57.5°	478.3	462.2	417.4	365.4	347.5
60°	426.4	403.1	365.4	320.7	306.3
62.5°	369.0	351.1	318.9	281.2	299.2
65°	317.1	299.2	270.5	275.9	229.3
67.5°	259.8	250.8	225.7	200.6	193.5
70°	211.4	200.6	191.7	164.8	157.6
72.5°	168.4	157.6	145.1	130.8	125.4
75°	127.2	118.2	111.1	105.7	116.4
77.5°	87.8	84.2	78.8	73.4	71.7
80°	57.3	55.5	53.7	52.0	50.2
82.5°	34.0	34.0	34.0	34.0	34.0
85°	17.9	19.7	21.5	23.3	25.1
87.5°	10.7	10.7	12.5	14.3	16.1
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)