

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: P545777

Luminaire Tested: **FMR-12-2-LD4-2STD-40-UNV-93-86-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: P545777
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-LD4-2STD-40-UNV-93-86-EDD
Description: 1X2 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS 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

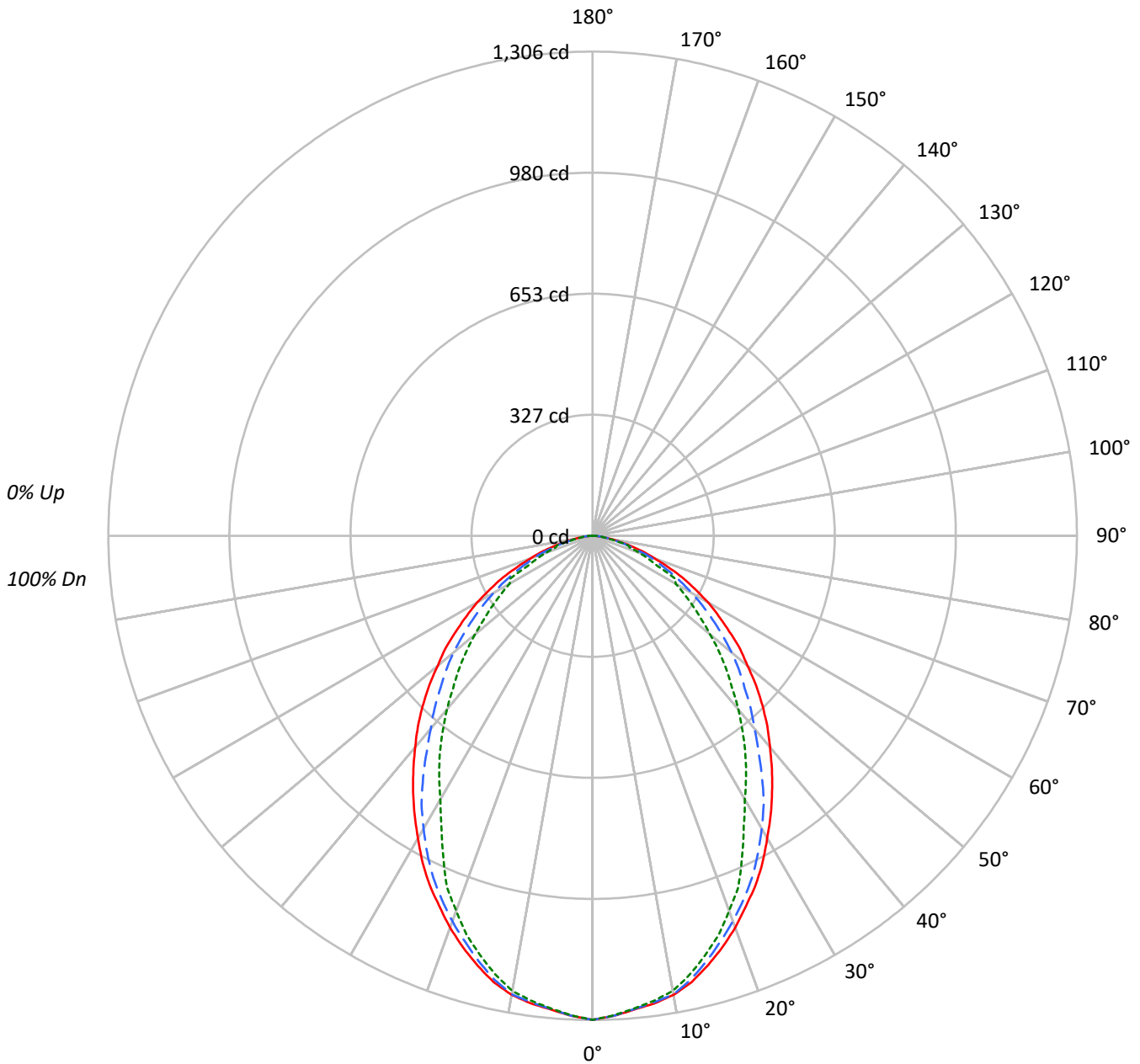
Lumens per Lamp: N/A
Luminaire Lumens: 2563.0 lumens
Efficiency: N/A
Efficacy: 77.0 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')
CIE Type: Direct

Input Watts (W): 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

TEST NUMBER: P545777

CATALOG NUMBER: FMR-12-2-LD4-2STD-40-UNV-93-86-EDD

Luminous Intensity Polar Plot





TEST NUMBER: P545777

CATALOG NUMBER: FMR-12-2-LD4-2STD-40-UNV-93-86-EDD

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20					20					20					20					20					
RC	80					70					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°	7027	7027	7027
5°	6931	6923	6915
10°	6871	6863	6813
15°	6686	6618	6526
20°	6440	6336	6163
25°	6175	6041	5665
30°	5853	5665	5103
35°	5543	5236	4720
40°	5228	4772	4295
45°	4928	4411	3882
50°	4562	4094	3463
55°	4221	3710	3101
60°	3866	3314	2778
65°	3401	2902	2460
70°	2803	2541	2090
75°	2229	1946	2040
80°	1497	1404	1311
85°	932	1118	1303



TEST NUMBER: P545777

CATALOG NUMBER: FMR-12-2-LD4-2STD-40-UNV-93-86-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	121.5	4.7
10°-20°	333.5	13.0
20°-30°	461.7	18.0
30°-40°	492.4	19.2
40°-50°	449.2	17.5
50°-60°	351.9	13.7
60°-70°	229.3	8.9
70°-80°	101.6	4.0
80°-90°	21.8	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°	916.8	35.8
0°-40°	1409.2	55.0
0°-60°	2210.2	86.2
0°-90°	2563.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2563.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1306	1306	1306	1306	1306	
5°	1283	1281	1281	1280	1280	122
15°	1200	1200	1188	1176	1171	337
25°	1040	1034	1017	981	954	477
35°	844	838	797	736	718	527
45°	648	634	580	531	510	499
55°	450	436	395	349	330	403
65°	267	252	228	232	193	263
75°	107	100	94	89	98	115
85°	15	17	18	20	21	21
90°	0	0	0	0	0	



TEST NUMBER: P545777

CATALOG NUMBER: FMR-12-2-LD4-2STD-40-UNV-93-86-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1305.6	1305.6	1305.6	1305.6	1305.6
2.5°	1296.5	1296.5	1296.5	1295.0	1295.0
5°	1282.9	1281.4	1281.4	1279.9	1279.9
7.5°	1272.4	1270.8	1269.3	1267.8	1264.8
10°	1257.3	1257.3	1255.8	1248.2	1246.7
12.5°	1233.1	1231.6	1225.6	1215.0	1212.0
15°	1199.9	1199.9	1187.8	1175.8	1171.2
17.5°	1163.7	1162.2	1147.1	1135.0	1129.0
20°	1124.4	1121.4	1106.3	1086.7	1076.1
22.5°	1080.7	1080.7	1062.6	1036.9	1026.3
25°	1039.9	1033.9	1017.3	981.1	953.9
27.5°	993.1	984.1	966.0	914.6	882.9
30°	941.8	937.3	911.6	845.2	821.1
32.5°	893.5	886.0	858.8	789.4	769.8
35°	843.7	837.7	796.9	736.5	718.4
37.5°	793.9	786.4	735.0	686.7	664.1
40°	744.1	735.0	679.2	635.4	611.3
42.5°	697.3	685.2	630.9	584.1	556.9
45°	647.5	633.9	579.6	531.3	510.1
47.5°	597.7	585.6	535.8	486.0	461.9
50°	544.9	534.3	489.0	439.2	413.6
52.5°	501.1	484.5	440.7	390.9	369.8
55°	449.8	436.2	395.4	348.7	330.5
57.5°	403.0	389.4	351.7	307.9	292.8
60°	359.2	339.6	307.9	270.2	258.1
62.5°	310.9	295.8	268.7	237.0	252.1
65°	267.1	252.1	227.9	232.4	193.2
67.5°	218.9	211.3	190.2	169.0	163.0
70°	178.1	169.0	161.5	138.9	132.8
72.5°	141.9	132.8	122.3	110.2	105.7
75°	107.2	99.6	93.6	89.0	98.1
77.5°	74.0	70.9	66.4	61.9	60.4
80°	48.3	46.8	45.3	43.8	42.3
82.5°	28.7	28.7	28.7	28.7	28.7
85°	15.1	16.6	18.1	19.6	21.1
87.5°	9.1	9.1	10.6	12.1	13.6
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)