

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: P546539

Luminaire Tested: **FMR-24-4-LD4-1LO-40-UNV-82-88-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: P546539
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-24-4-LD4-1LO-40-UNV-82-88-EDD
Description: 2X4 FMR TROFFER WITH .187 CLEAR PC 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

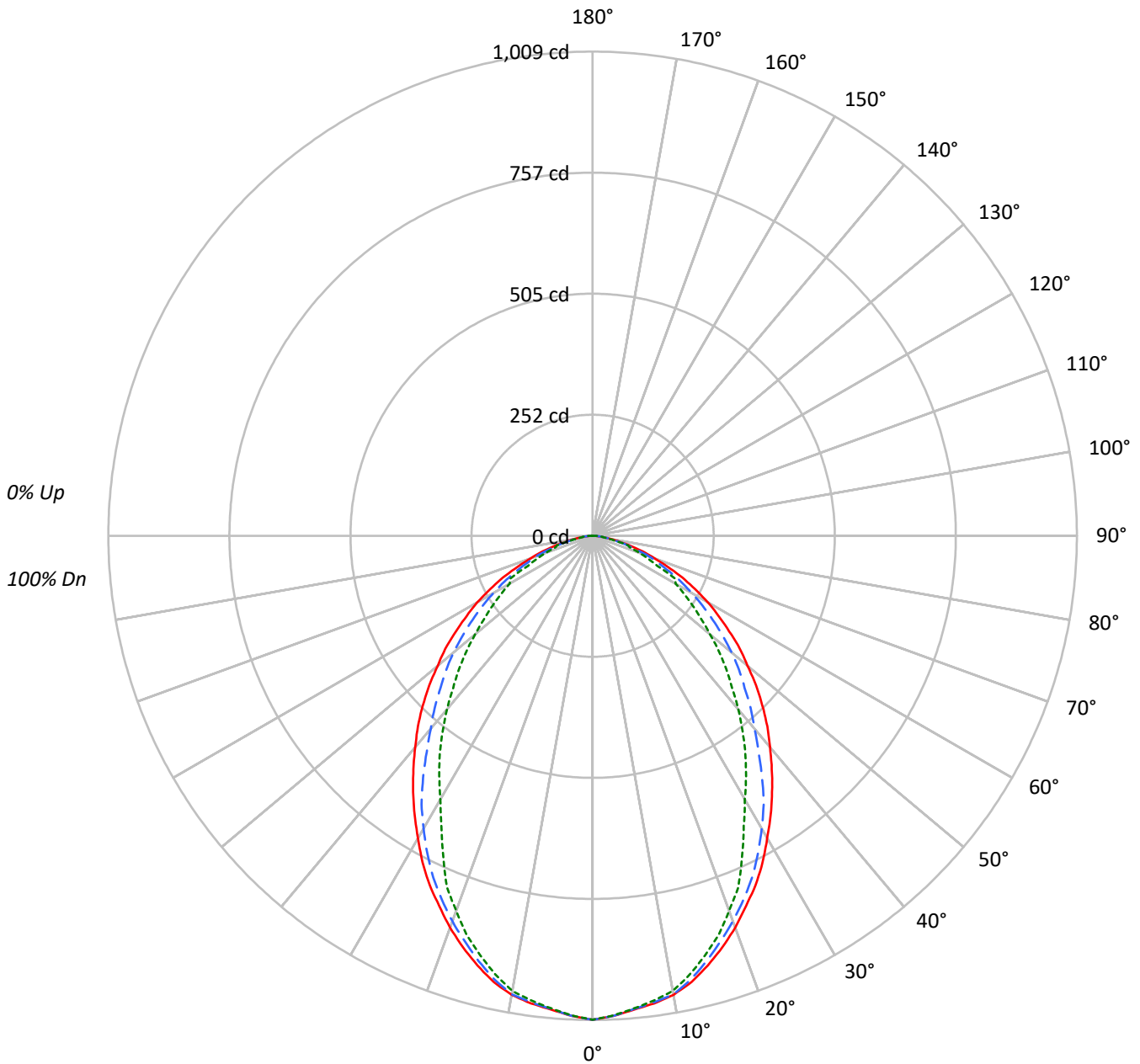
Lumens per Lamp: N/A
Luminaire Lumens: 1980.0 lumens
Efficiency: N/A
Efficacy: 84.6 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 23.4
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: P546539

CATALOG NUMBER: FMR-24-4-LD4-1LO-40-UNV-82-88-EDD

Luminous Intensity Polar Plot





TEST NUMBER: P546539

CATALOG NUMBER: FMR-24-4-LD4-1LO-40-UNV-82-88-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°	1357	1357	1357
5°	1339	1337	1336
10°	1327	1325	1316
15°	1291	1278	1260
20°	1244	1224	1190
25°	1193	1167	1094
30°	1130	1094	985
35°	1071	1011	912
40°	1010	922	829
45°	952	852	750
50°	881	791	669
55°	815	717	599
60°	747	640	537
65°	657	561	475
70°	541	491	404
75°	430	376	394
80°	289	271	253
85°	181	216	252



TEST NUMBER: P546539

CATALOG NUMBER: FMR-24-4-LD4-1LO-40-UNV-82-88-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	93.9	4.7
10°-20°	257.7	13.0
20°-30°	356.7	18.0
30°-40°	380.4	19.2
40°-50°	347.0	17.5
50°-60°	271.9	13.7
60°-70°	177.2	8.9
70°-80°	78.5	4.0
80°-90°	16.9	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°	708.3	35.8
0°-40°	1088.6	55.0
0°-60°	1707.5	86.2
0°-90°	1980.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1980.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1009	1009	1009	1009	1009	
5°	991	990	990	989	989	94
15°	927	927	918	908	905	261
25°	803	799	786	758	737	369
35°	652	647	616	569	555	407
45°	500	490	448	410	394	385
55°	348	337	306	269	255	312
65°	206	195	176	180	149	203
75°	83	77	72	69	76	89
85°	12	13	14	15	16	16
90°	0	0	0	0	0	



TEST NUMBER: P546539

CATALOG NUMBER: FMR-24-4-LD4-1LO-40-UNV-82-88-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1008.6	1008.6	1008.6	1008.6	1008.6
2.5°	1001.6	1001.6	1001.6	1000.4	1000.4
5°	991.1	989.9	989.9	988.8	988.8
7.5°	982.9	981.8	980.6	979.4	977.1
10°	971.3	971.3	970.1	964.3	963.1
12.5°	952.6	951.5	946.8	938.6	936.3
15°	927.0	927.0	917.6	908.3	904.8
17.5°	899.0	897.8	886.2	876.8	872.2
20°	868.7	866.3	854.7	839.5	831.4
22.5°	834.9	834.9	820.9	801.0	792.9
25°	803.4	798.7	785.9	757.9	736.9
27.5°	767.2	760.2	746.2	706.6	682.1
30°	727.6	724.1	704.3	653.0	634.3
32.5°	690.3	684.4	663.5	609.8	594.7
35°	651.8	647.1	615.6	569.0	555.0
37.5°	613.3	607.5	567.8	530.5	513.0
40°	574.8	567.8	524.7	490.9	472.2
42.5°	538.7	529.4	487.4	451.2	430.3
45°	500.2	489.7	447.7	410.4	394.1
47.5°	461.7	452.4	413.9	375.5	356.8
50°	420.9	412.8	377.8	339.3	319.5
52.5°	387.1	374.3	340.5	302.0	285.7
55°	347.5	337.0	305.5	269.3	255.4
57.5°	311.3	300.8	271.7	237.9	226.2
60°	277.5	262.3	237.9	208.7	199.4
62.5°	240.2	228.5	207.5	183.1	194.7
65°	206.4	194.7	176.1	179.6	149.2
67.5°	169.1	163.2	146.9	130.6	125.9
70°	137.6	130.6	124.8	107.3	102.6
72.5°	109.6	102.6	94.4	85.1	81.6
75°	82.8	77.0	72.3	68.8	75.8
77.5°	57.1	54.8	51.3	47.8	46.6
80°	37.3	36.1	35.0	33.8	32.6
82.5°	22.2	22.2	22.2	22.2	22.2
85°	11.7	12.8	14.0	15.2	16.3
87.5°	7.0	7.0	8.2	9.3	10.5
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)