

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: P546055

Luminaire Tested: **FMR-12-4-LD4-1STD-40-UNV-82-84-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: P546055
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-LD4-1STD-40-UNV-82-84-EDD
Description: 1X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

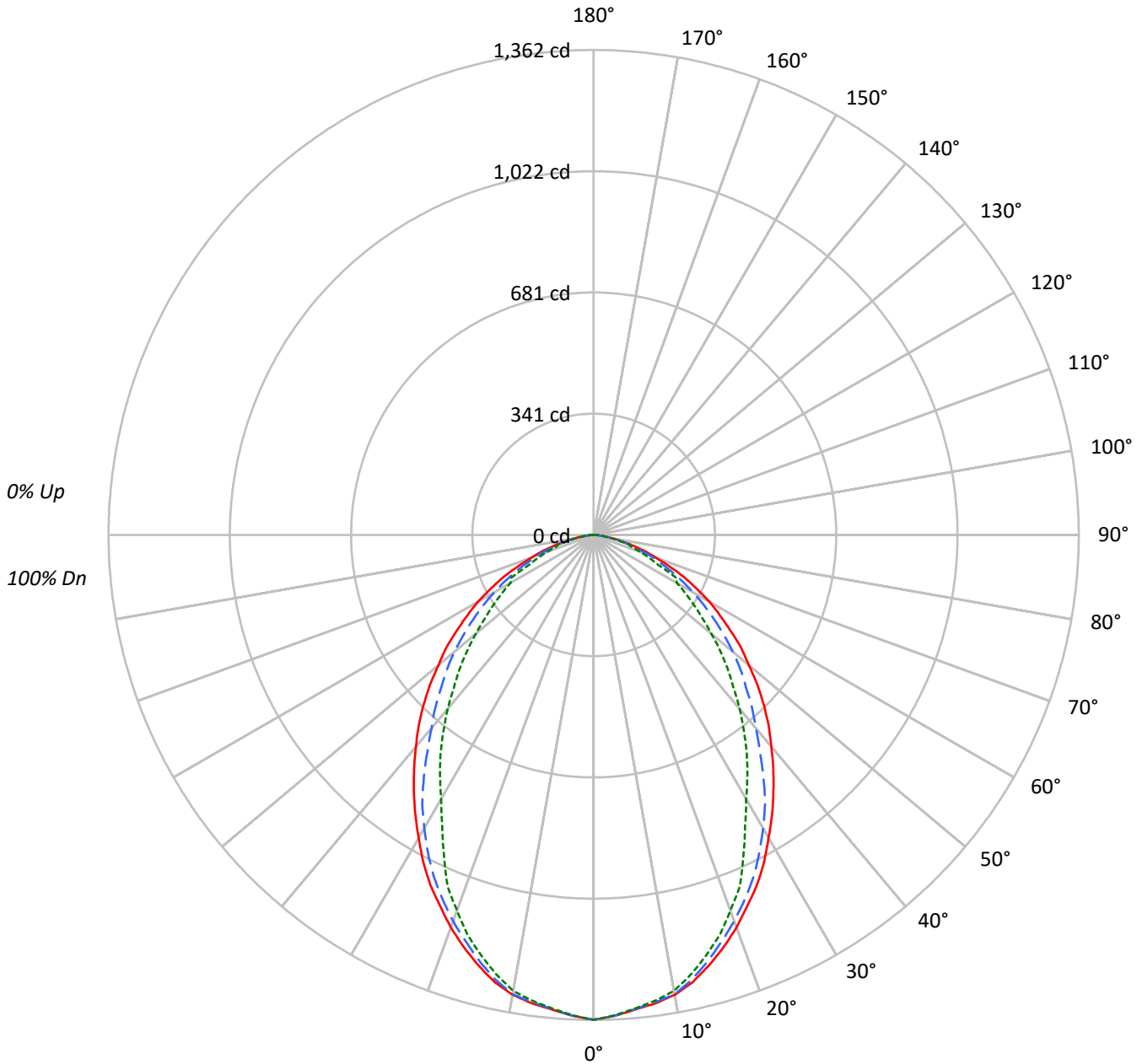
Lumens per Lamp: N/A
Luminaire Lumens: 2673.0 lumens
Efficiency: N/A
Efficacy: 80.3 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 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: P546055

CATALOG NUMBER: FMR-12-4-LD4-1STD-40-UNV-82-84-EDD

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°	3664	3664	3664
5°	3614	3610	3606
10°	3583	3578	3553
15°	3486	3451	3403
20°	3358	3304	3214
25°	3220	3150	2954
30°	3052	2954	2661
35°	2891	2730	2462
40°	2726	2488	2239
45°	2570	2300	2025
50°	2379	2135	1806
55°	2201	1935	1617
60°	2016	1728	1449
65°	1774	1514	1283
70°	1461	1325	1090
75°	1162	1015	1064
80°	781	731	683
85°	485	584	679



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	126.7	4.7
10°-20°	347.8	13.0
20°-30°	481.6	18.0
30°-40°	513.5	19.2
40°-50°	468.4	17.5
50°-60°	367.0	13.7
60°-70°	239.2	8.9
70°-80°	106.0	4.0
80°-90°	22.7	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°	956.2	35.8
0°-40°	1469.6	55.0
0°-60°	2305.1	86.2
0°-90°	2673.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2673.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1362	1362	1362	1362	1362	
5°	1338	1336	1336	1335	1335	127
15°	1251	1251	1239	1226	1222	352
25°	1085	1078	1061	1023	995	498
35°	880	874	831	768	749	550
45°	675	661	604	554	532	520
55°	469	455	412	364	345	421
65°	279	263	238	242	202	275
75°	112	104	98	93	102	120
85°	16	17	19	20	22	22
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1361.6	1361.6	1361.6	1361.6	1361.6
2.5°	1352.1	1352.1	1352.1	1350.6	1350.6
5°	1338.0	1336.4	1336.4	1334.8	1334.8
7.5°	1327.0	1325.4	1323.8	1322.2	1319.1
10°	1311.2	1311.2	1309.6	1301.8	1300.2
12.5°	1286.0	1284.5	1278.2	1267.1	1264.0
15°	1251.4	1251.4	1238.8	1226.2	1221.5
17.5°	1213.6	1212.1	1196.3	1183.7	1177.4
20°	1172.7	1169.6	1153.8	1133.3	1122.3
22.5°	1127.1	1127.1	1108.2	1081.4	1070.4
25°	1084.6	1078.3	1060.9	1023.2	994.8
27.5°	1035.8	1026.3	1007.4	953.9	920.8
30°	982.2	977.5	950.8	881.5	856.3
32.5°	931.9	924.0	895.7	823.3	802.8
35°	879.9	873.6	831.1	768.2	749.3
37.5°	828.0	820.1	766.6	716.2	692.6
40°	776.0	766.6	708.3	662.7	637.5
42.5°	727.2	714.6	658.0	609.2	580.8
45°	675.3	661.1	604.5	554.1	532.0
47.5°	623.3	610.7	558.8	506.9	481.7
50°	568.2	557.2	510.0	458.1	431.3
52.5°	522.6	505.3	459.6	407.7	385.7
55°	469.1	454.9	412.4	363.6	344.7
57.5°	420.3	406.1	366.8	321.1	305.4
60°	374.6	354.2	321.1	281.8	269.2
62.5°	324.3	308.5	280.2	247.1	262.9
65°	278.6	262.9	237.7	242.4	201.5
67.5°	228.2	220.4	198.3	176.3	170.0
70°	185.7	176.3	168.4	144.8	138.5
72.5°	148.0	138.5	127.5	114.9	110.2
75°	111.8	103.9	97.6	92.9	102.3
77.5°	77.1	74.0	69.3	64.5	63.0
80°	50.4	48.8	47.2	45.6	44.1
82.5°	29.9	29.9	29.9	29.9	29.9
85°	15.7	17.3	18.9	20.5	22.0
87.5°	9.4	9.4	11.0	12.6	14.2
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)