

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: P545951

Luminaire Tested: **FMR-12-4-LD4-1LO-40-UNV-81-84-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: P545951
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-LD4-1LO-40-UNV-81-84-EDD
Description: 1X4 FMR TROFFER WITH .156 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

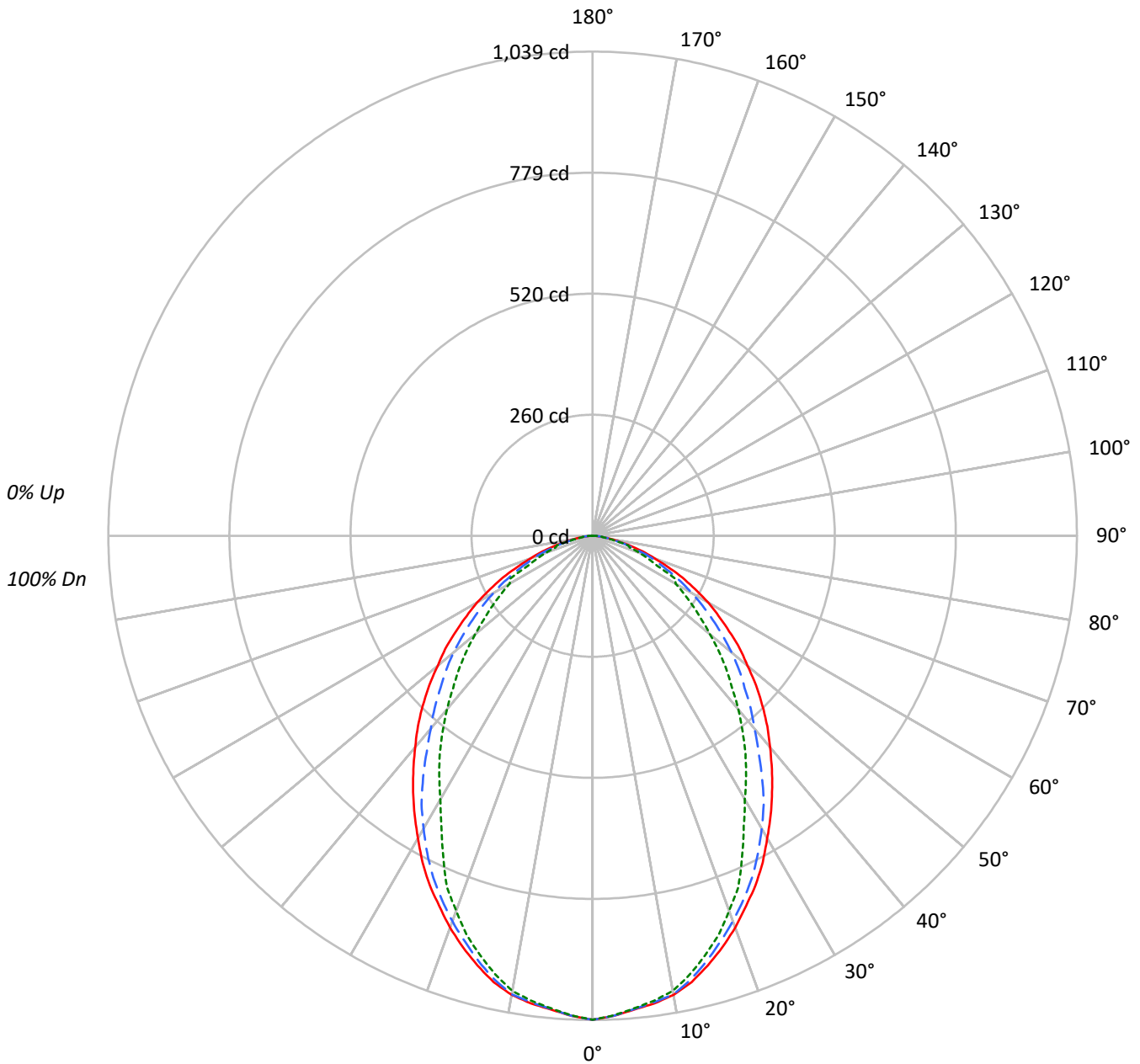
Lumens per Lamp: N/A
Luminaire Lumens: 2039.0 lumens
Efficiency: N/A
Efficacy: 87.1 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 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: P545951

CATALOG NUMBER: FMR-12-4-LD4-1LO-40-UNV-81-84-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°	2795	2795	2795
5°	2757	2754	2750
10°	2733	2730	2710
15°	2659	2633	2596
20°	2562	2520	2452
25°	2456	2403	2253
30°	2328	2253	2030
35°	2205	2083	1878
40°	2080	1898	1708
45°	1960	1755	1544
50°	1815	1629	1377
55°	1679	1476	1234
60°	1538	1319	1105
65°	1353	1154	979
70°	1115	1011	832
75°	887	774	811
80°	595	558	521
85°	371	445	519



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	96.7	4.7
10°-20°	265.3	13.0
20°-30°	367.3	18.0
30°-40°	391.7	19.2
40°-50°	357.3	17.5
50°-60°	280.0	13.7
60°-70°	182.5	8.9
70°-80°	80.8	4.0
80°-90°	17.3	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°	729.4	35.8
0°-40°	1121.1	55.0
0°-60°	1758.4	86.2
0°-90°	2039.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2039.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1039	1039	1039	1039	1039	
5°	1021	1019	1019	1018	1018	97
15°	955	955	945	935	932	268
25°	827	822	809	780	759	380
35°	671	666	634	586	572	420
45°	515	504	461	423	406	397
55°	358	347	315	277	263	321
65°	212	200	181	185	154	209
75°	85	79	74	71	78	91
85°	12	13	14	16	17	17
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1038.6	1038.6	1038.6	1038.6	1038.6
2.5°	1031.4	1031.4	1031.4	1030.2	1030.2
5°	1020.6	1019.4	1019.4	1018.2	1018.2
7.5°	1012.2	1011.0	1009.8	1008.6	1006.2
10°	1000.2	1000.2	999.0	993.0	991.8
12.5°	981.0	979.8	975.0	966.6	964.2
15°	954.6	954.6	945.0	935.4	931.8
17.5°	925.8	924.6	912.6	903.0	898.2
20°	894.6	892.1	880.1	864.5	856.1
22.5°	859.7	859.7	845.3	824.9	816.5
25°	827.3	822.5	809.3	780.5	758.9
27.5°	790.1	782.9	768.5	727.6	702.4
30°	749.3	745.7	725.2	672.4	653.2
32.5°	710.8	704.8	683.2	628.0	612.4
35°	671.2	666.4	634.0	586.0	571.6
37.5°	631.6	625.6	584.8	546.3	528.3
40°	592.0	584.8	540.3	505.5	486.3
42.5°	554.7	545.1	501.9	464.7	443.1
45°	515.1	504.3	461.1	422.7	405.8
47.5°	475.5	465.9	426.3	386.6	367.4
50°	433.5	425.1	389.0	349.4	329.0
52.5°	398.6	385.4	350.6	311.0	294.2
55°	357.8	347.0	314.6	277.4	263.0
57.5°	320.6	309.8	279.8	245.0	232.9
60°	285.8	270.2	245.0	214.9	205.3
62.5°	247.4	235.3	213.7	188.5	200.5
65°	212.5	200.5	181.3	184.9	153.7
67.5°	174.1	168.1	151.3	134.5	129.7
70°	141.7	134.5	128.5	110.5	105.7
72.5°	112.9	105.7	97.3	87.7	84.1
75°	85.3	79.2	74.4	70.8	78.0
77.5°	58.8	56.4	52.8	49.2	48.0
80°	38.4	37.2	36.0	34.8	33.6
82.5°	22.8	22.8	22.8	22.8	22.8
85°	12.0	13.2	14.4	15.6	16.8
87.5°	7.2	7.2	8.4	9.6	10.8
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)