

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: P545974

Luminaire Tested: **FMR-12-4-LD4-1LO-40-UNV-93-97-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: P545974
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-93-97-EDD
Description: 1X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

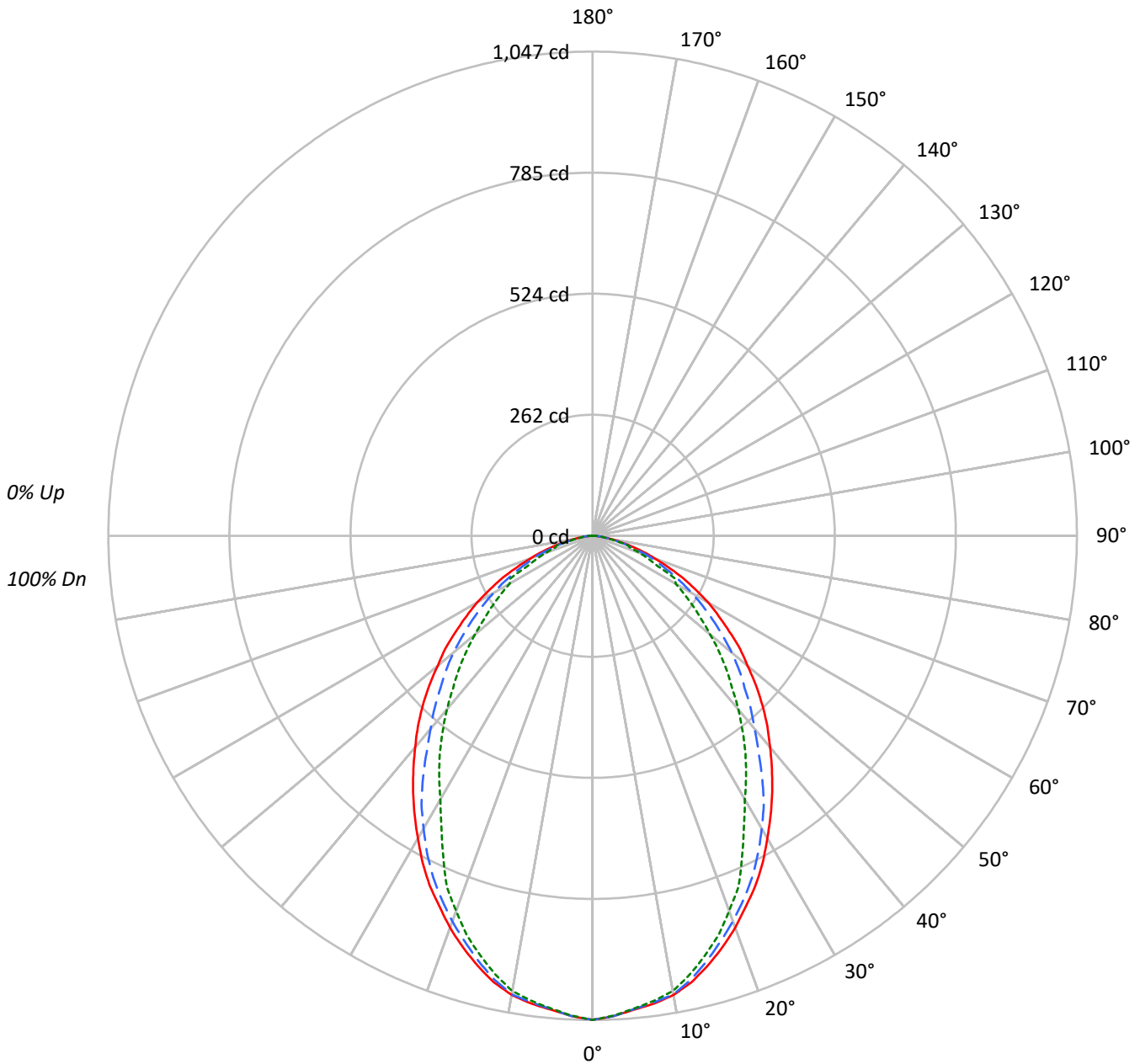
Lumens per Lamp: N/A
Luminaire Lumens: 2055.0 lumens
Efficiency: N/A
Efficacy: 87.8 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 23.4
Input Voltage (V): NR
Input Current (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

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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°	2817	2817	2817
5°	2779	2775	2772
10°	2755	2751	2731
15°	2680	2653	2616
20°	2582	2540	2471
25°	2476	2422	2271
30°	2346	2271	2046
35°	2222	2099	1892
40°	2096	1913	1722
45°	1976	1768	1556
50°	1829	1641	1388
55°	1692	1488	1243
60°	1550	1329	1114
65°	1364	1163	986
70°	1124	1019	838
75°	893	780	818
80°	600	563	525
85°	374	448	522



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	97.4	4.7
10°-20°	267.4	13.0
20°-30°	370.2	18.0
30°-40°	394.8	19.2
40°-50°	360.1	17.5
50°-60°	282.1	13.7
60°-70°	183.9	8.9
70°-80°	81.5	4.0
80°-90°	17.5	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°	735.1	35.8
0°-40°	1129.9	55.0
0°-60°	1772.1	86.2
0°-90°	2055.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2055.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1047	1047	1047	1047	1047	
5°	1029	1027	1027	1026	1026	98
15°	962	962	952	943	939	270
25°	834	829	816	787	765	383
35°	676	672	639	591	576	423
45°	519	508	465	426	409	400
55°	361	350	317	280	265	323
65°	214	202	183	186	155	211
75°	86	80	75	71	79	92
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°	1046.8	1046.8	1046.8	1046.8	1046.8
2.5°	1039.5	1039.5	1039.5	1038.3	1038.3
5°	1028.6	1027.4	1027.4	1026.2	1026.2
7.5°	1020.2	1019.0	1017.7	1016.5	1014.1
10°	1008.1	1008.1	1006.9	1000.8	999.6
12.5°	988.7	987.5	982.7	974.2	971.8
15°	962.1	962.1	952.4	942.7	939.1
17.5°	933.0	931.8	919.7	910.0	905.2
20°	901.6	899.1	887.0	871.3	862.8
22.5°	866.5	866.5	852.0	831.4	822.9
25°	833.8	829.0	815.6	786.6	764.8
27.5°	796.3	789.0	774.5	733.4	707.9
30°	755.1	751.5	730.9	677.7	658.3
32.5°	716.4	710.4	688.6	632.9	617.2
35°	676.5	671.6	639.0	590.6	576.0
37.5°	636.5	630.5	589.3	550.6	532.5
40°	596.6	589.3	544.6	509.5	490.1
42.5°	559.1	549.4	505.8	468.3	446.5
45°	519.2	508.3	464.7	426.0	409.0
47.5°	479.2	469.5	429.6	389.7	370.3
50°	436.9	428.4	392.1	352.2	331.6
52.5°	401.8	388.5	353.4	313.4	296.5
55°	360.6	349.7	317.1	279.5	265.0
57.5°	323.1	312.2	282.0	246.9	234.8
60°	288.0	272.3	246.9	216.6	206.9
62.5°	249.3	237.2	215.4	190.0	202.1
65°	214.2	202.1	182.7	186.4	154.9
67.5°	175.5	169.4	152.5	135.5	130.7
70°	142.8	135.5	129.5	111.3	106.5
72.5°	113.8	106.5	98.0	88.3	84.7
75°	85.9	79.9	75.0	71.4	78.7
77.5°	59.3	56.9	53.2	49.6	48.4
80°	38.7	37.5	36.3	35.1	33.9
82.5°	23.0	23.0	23.0	23.0	23.0
85°	12.1	13.3	14.5	15.7	16.9
87.5°	7.3	7.3	8.5	9.7	10.9
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)