

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: P545972

Luminaire Tested: **FMR-12-4-LD4-1LO-40-UNV-93-94-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: P545972
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-93-94-EDD
Description: 1X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187
CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT
LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

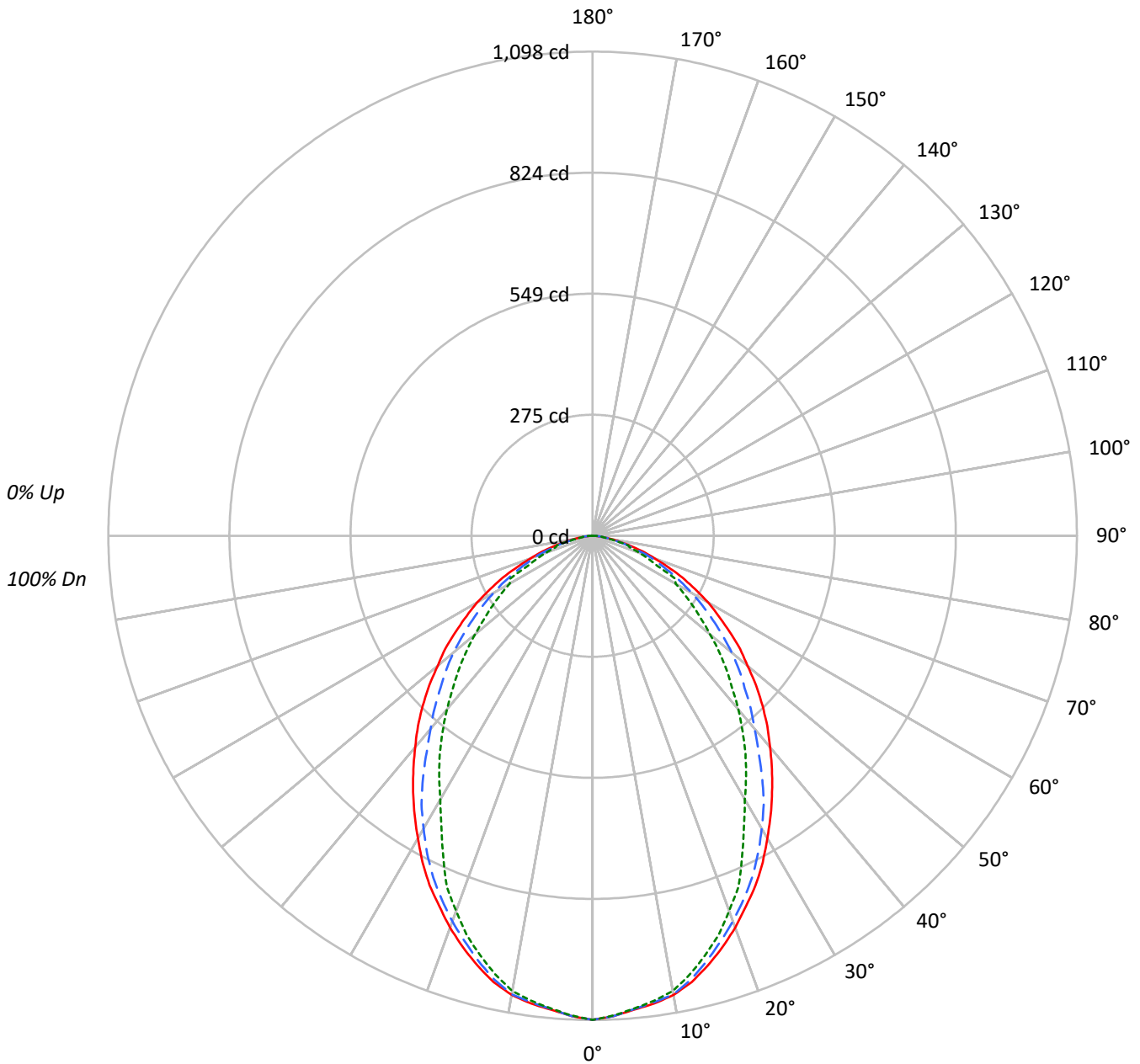
Lumens per Lamp: N/A
Luminaire Lumens: 2155.0 lumens
Efficiency: N/A
Efficacy: 92.1 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 23.4
Input Voltage (V): NR
Input Current (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°	2954	2954	2954
5°	2914	2910	2907
10°	2889	2885	2864
15°	2811	2782	2744
20°	2707	2664	2591
25°	2596	2540	2381
30°	2461	2382	2145
35°	2330	2201	1985
40°	2198	2006	1806
45°	2072	1854	1632
50°	1918	1721	1456
55°	1774	1560	1304
60°	1625	1393	1168
65°	1430	1220	1034
70°	1178	1068	879
75°	937	818	858
80°	629	590	550
85°	392	469	550



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	102.2	4.7
10°-20°	280.4	13.0
20°-30°	388.2	18.0
30°-40°	414.0	19.2
40°-50°	377.7	17.5
50°-60°	295.9	13.7
60°-70°	192.8	8.9
70°-80°	85.4	4.0
80°-90°	18.3	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°	770.9	35.8
0°-40°	1184.8	55.0
0°-60°	1858.4	86.2
0°-90°	2155.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2155.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1098	1098	1098	1098	1098	
5°	1079	1077	1077	1076	1076	102
15°	1009	1009	999	989	985	284
25°	874	869	855	825	802	401
35°	709	704	670	619	604	444
45°	544	533	487	447	429	419
55°	378	367	332	293	278	339
65°	225	212	192	195	162	221
75°	90	84	79	75	82	97
85°	13	14	15	16	18	18
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1097.7	1097.7	1097.7	1097.7	1097.7
2.5°	1090.1	1090.1	1090.1	1088.8	1088.8
5°	1078.7	1077.4	1077.4	1076.2	1076.2
7.5°	1069.8	1068.5	1067.3	1066.0	1063.5
10°	1057.1	1057.1	1055.8	1049.5	1048.2
12.5°	1036.8	1035.5	1030.5	1021.6	1019.0
15°	1008.9	1008.9	998.7	988.6	984.8
17.5°	978.4	977.2	964.5	954.3	949.2
20°	945.4	942.9	930.2	913.7	904.8
22.5°	908.6	908.6	893.4	871.8	863.0
25°	874.4	869.3	855.3	824.9	802.0
27.5°	835.0	827.4	812.2	769.0	742.4
30°	791.9	788.1	766.5	710.7	690.4
32.5°	751.3	744.9	722.1	663.7	647.2
35°	709.4	704.3	670.1	619.3	604.1
37.5°	667.5	661.2	618.0	577.4	558.4
40°	625.6	618.0	571.1	534.3	514.0
42.5°	586.3	576.1	530.5	491.1	468.3
45°	544.4	533.0	487.3	446.7	428.9
47.5°	502.5	492.4	450.5	408.6	388.3
50°	458.1	449.2	411.2	369.3	347.7
52.5°	421.3	407.4	370.6	328.7	310.9
55°	378.2	366.8	332.5	293.2	277.9
57.5°	338.8	327.4	295.7	258.9	246.2
60°	302.0	285.5	258.9	227.2	217.0
62.5°	261.4	248.7	225.9	199.2	211.9
65°	224.6	211.9	191.6	195.4	162.4
67.5°	184.0	177.7	159.9	142.1	137.1
70°	149.7	142.1	135.8	116.8	111.7
72.5°	119.3	111.7	102.8	92.6	88.8
75°	90.1	83.8	78.7	74.9	82.5
77.5°	62.2	59.6	55.8	52.0	50.8
80°	40.6	39.3	38.1	36.8	35.5
82.5°	24.1	24.1	24.1	24.1	24.1
85°	12.7	14.0	15.2	16.5	17.8
87.5°	7.6	7.6	8.9	10.2	11.4
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)