

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: P545684

Luminaire Tested: **FMR-12-2-LD4-2LO-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: P545684
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-12-2-LD4-2LO-40-UNV-93-94-EDD
Description: 1X2 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

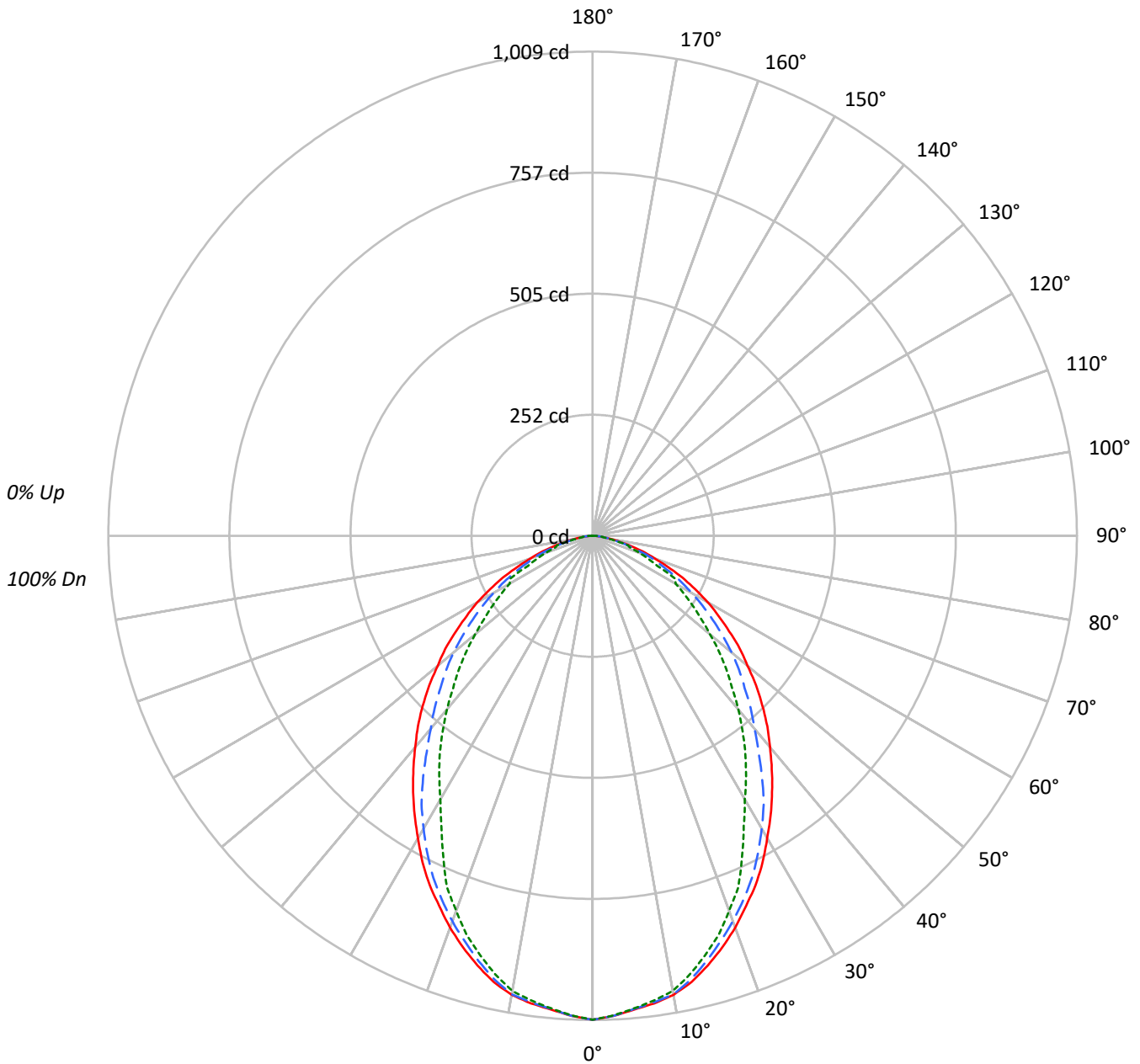
Lumens per Lamp: N/A
Luminaire Lumens: 1980.0 lumens
Efficiency: N/A
Efficacy: 84.6 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')
CIE Type: Direct

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				20				
RC	80				70				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°	5428	5428	5428
5°	5354	5348	5342
10°	5308	5302	5263
15°	5165	5113	5041
20°	4975	4895	4762
25°	4771	4667	4376
30°	4522	4377	3942
35°	4282	4045	3646
40°	4038	3686	3318
45°	3807	3408	3000
50°	3524	3163	2675
55°	3261	2867	2396
60°	2987	2561	2146
65°	2628	2243	1900
70°	2165	1964	1614
75°	1722	1503	1576
80°	1156	1085	1010
85°	722	865	1007



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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	



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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)