

LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-State Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

Brand: FAIL-SAFE

Report Number: P517220

Luminaire Tested: HVL12-1-LD4-2LO-40-UNV-C-EDD

Issue Date: 4/27/2021

Tested By:

Approved By:



NVLAP Lab Code: 200050-0

Cooper Lighting Solutions laboratories have been accredited by National Voluntary Laboratory Accreditation Program (NVLAP) that it adheres to the requirements of ISO/IEC 17025:2005 and appropriate IESNA test methods. This report must not be used to claim product certification, approval or endorsement by NVLAP, NIST or any agency of the Federal Government. Results contained in this report are valid for luminaire sample tested, as supplied by requestor. Information related to the luminaire tested has been supplied by requestor and can affect the validity of the test results. Report shall not be reproduced except in full without approval of Cooper Lighting Solutions Lighting Laboratory. Test performed at address noted above.

Test Information

Test Method: LM-79-2019
Report Number: P517220
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL12-1-LD4-2LO-40-UNV-C-EDD
Description: 1 FOOT, 12 INCH WIDE, HVL LED LUMINAIRE, WITH 4000K, 80 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1428.0 lumens
Efficiency: N/A
Efficacy: 121.0 lumens/watt
Spacing Criteria (0/90/45): 1.18 / 1.32 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 1' x L: 1' x H: 0.17')
CIE Type: Direct

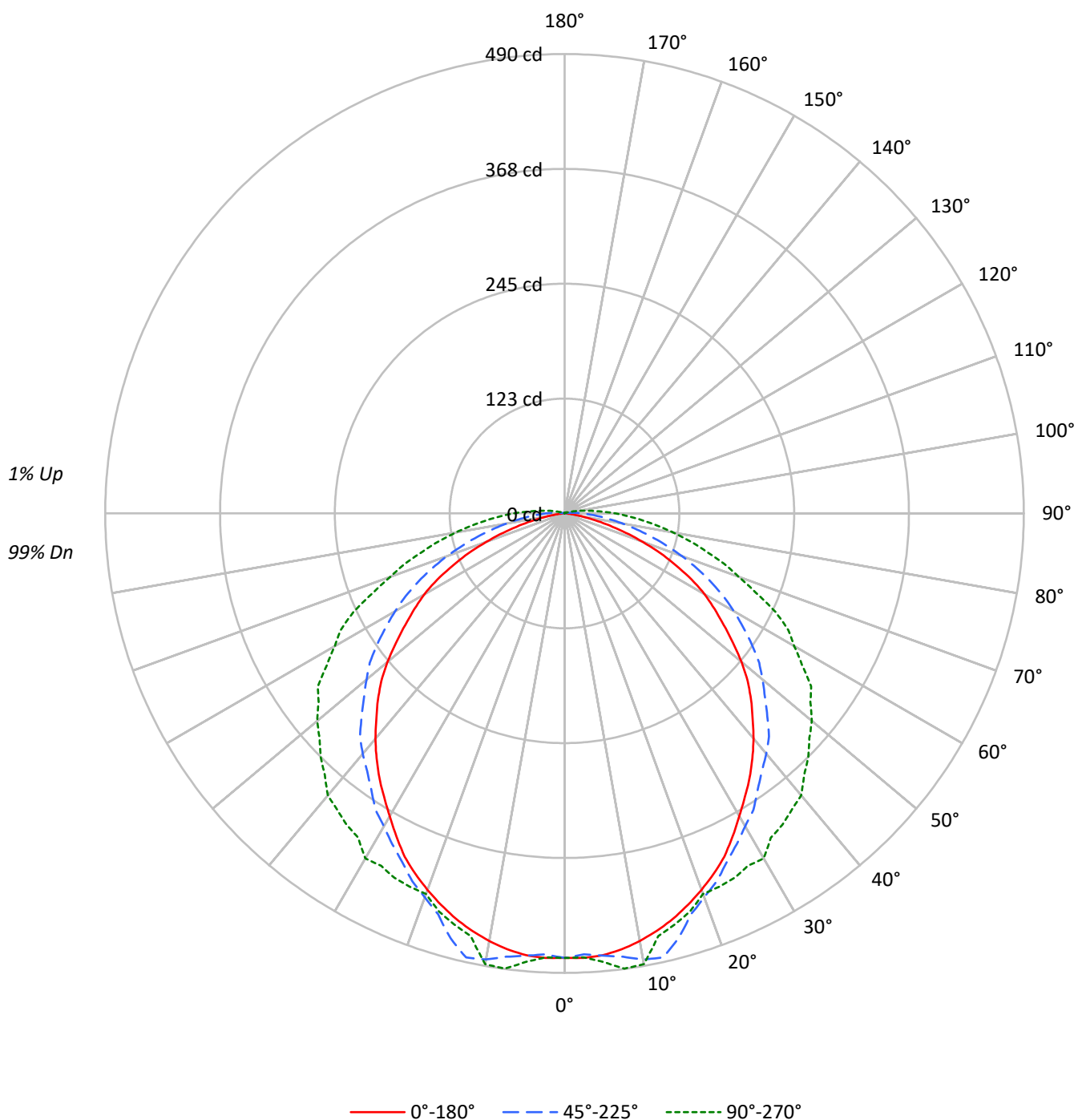
Input Watts (W): 11.8
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	P3	10/30/2015	4/30/2016
Power Meter	IN0214	1/12/2016	1/12/2017
AC Power Source	IN0062	1/12/2016	1/12/2017
DC Power Supply	--	--	--
Room Thermometer	IN0145	1/13/2016	1/13/2017

TEST NUMBER: P517220

CATALOG NUMBER: HVL12-1-LD4-2LO-40-UNV-C-EDD

Luminous Intensity Polar Plot



TEST NUMBER: P517220

CATALOG NUMBER: HVL12-1-LD4-2LO-40-UNV-C-EDD

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20					20					20					20
RC	80				70					50					30					10
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10
RCR																				
0	119	119	119	119	116	116	116	116	110	110	110	105	105	105	101	101	101			99
1	108	103	98	94	105	100	96	92	96	92	89	91	89	86	87	85	83			81
2	98	89	82	76	95	87	80	75	83	78	73	80	75	71	76	72	69			67
3	89	78	69	63	86	76	68	62	73	66	61	70	64	59	67	62	58			56
4	81	69	60	53	79	67	59	52	65	57	51	62	56	51	60	54	50			47
5	75	61	52	45	72	60	51	45	58	50	44	56	49	44	54	48	43			41
6	69	55	46	39	67	54	46	39	52	45	39	50	44	38	49	43	38			36
7	64	50	41	35	62	49	41	35	47	40	34	46	39	34	44	38	34			32
8	59	46	37	31	58	45	37	31	43	36	31	42	35	30	41	35	30			28
9	55	42	34	28	54	41	33	28	40	33	28	39	32	27	38	32	27			25
10	52	39	31	25	51	38	30	25	37	30	25	36	29	25	35	29	25			23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5102	5102	5102
5°	5036	5013	5114
10°	4916	5068	5182
15°	4775	4919	4843
20°	4615	4596	4664
25°	4449	4386	4728
30°	4227	4215	4816
35°	4052	4052	4769
40°	3868	3927	4840
45°	3673	3769	4798
50°	3445	3604	4811
55°	3142	3427	4869
60°	2887	3190	4727
65°	2462	2910	4659
70°	1912	2550	4272
75°	1272	2122	4015
80°	637	1690	3760
85°	187	1250	3537

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 55°

Luminance: 4869 cd/sqm

TEST NUMBER: P517220

CATALOG NUMBER: HVL12-1-LD4-2LO-40-UNV-C-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	45.6	3.2
10°-20°	129.7	9.1
20°-30°	193.0	13.5
30°-40°	232.0	16.2
40°-50°	244.2	17.1
50°-60°	226.6	15.9
60°-70°	179.2	12.5
70°-80°	109.4	7.7
80°-90°	47.7	3.3
90°-100°	14.9	1.0
100°-110°	3.3	0.2
110°-120°	1.3	0.1
120°-130°	0.8	0.1
130°-140°	0.2	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°	368.3	25.8
0°-40°	600.4	42.0
0°-60°	1071.2	75.0
0°-90°	1407.5	98.6
90°-120°	19.5	1.4
90°-150°	20.5	1.4
90°-180°	20.0	1.4
0°-180°	1428.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	474	474	474	474	474	
5°	473	472	474	479	480	45
15°	448	465	469	454	454	126
25°	404	430	410	422	429	185
35°	344	354	359	392	405	215
45°	282	283	306	354	368	217
55°	207	211	244	298	321	186
65°	131	135	172	228	248	130
75°	50	66	96	147	157	54
85°	4	15	37	72	83	7
90°	0	5	20	46	54	0
95°	0	1	9	25	31	0
105°	0	1	2	5	7	0
115°	0	0	1	2	2	0
125°	0	0	1	1	2	0
135°	0	0	0	0	1	0
145°	0	0	0	0	0	0
155°	0	0	0	0	0	0
165°	0	0	0	0	0	0
175°	0	0	0	0	0	0
180°	0	0	0	0	0	0

TEST NUMBER: P517220

CATALOG NUMBER: HVL12-1-LD4-2LO-40-UNV-C-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	474.0	474.0	474.0	474.0	474.0
2.5°	474.6	473.3	470.7	473.2	473.9
5°	472.9	471.9	473.5	478.8	480.2
7.5°	468.9	472.6	476.9	486.6	489.7
10°	463.0	470.0	483.0	491.2	488.0
12.5°	455.9	467.6	485.1	469.1	461.7
15°	447.6	464.7	469.3	453.7	454.0
17.5°	437.8	462.3	448.3	447.9	445.1
20°	427.3	454.2	435.7	434.9	431.9
22.5°	416.0	443.5	424.5	422.9	431.0
25°	403.7	429.5	409.9	422.2	429.0
27.5°	388.4	411.2	397.7	415.1	423.7
30°	372.8	392.2	385.3	409.5	424.8
32.5°	358.2	372.4	375.0	407.4	409.9
35°	344.4	354.0	359.3	391.9	405.3
37.5°	329.3	331.9	346.0	385.5	398.3
40°	313.8	312.2	334.8	374.9	392.6
42.5°	297.2	296.6	322.9	369.5	378.4
45°	281.5	282.7	306.0	354.5	367.7
47.5°	265.3	267.0	290.0	338.0	354.4
50°	246.6	248.7	275.7	323.3	344.4
52.5°	226.3	230.4	261.8	309.4	330.7
55°	207.3	210.7	244.1	297.5	321.2
57.5°	189.9	192.0	225.9	282.5	300.4
60°	172.8	173.3	208.7	265.9	283.0
62.5°	153.2	154.1	191.0	246.3	269.2
65°	131.2	135.4	172.0	227.6	248.3
67.5°	110.7	117.9	152.6	210.4	221.2
70°	88.6	100.9	133.5	190.2	197.9
72.5°	68.5	82.8	114.0	167.6	178.3
75°	49.6	65.8	95.9	147.4	156.6
77.5°	33.4	49.8	78.9	125.0	137.2
80°	20.0	36.4	63.7	104.2	118.0
82.5°	10.2	24.4	49.4	87.4	99.7
85°	4.4	15.4	37.4	72.5	83.2
87.5°	1.3	8.8	27.5	58.6	67.7
90°	0.1	4.6	19.6	46.0	54.2
92.5°	0.1	2.2	13.8	34.8	41.0
95°	0.1	1.2	8.6	25.2	30.8
97.5°	0.1	0.7	5.2	17.9	22.6
100°	0.1	0.6	3.1	11.9	16.1
102.5°	0.1	0.7	2.1	7.5	10.5
105°	0.1	0.7	1.7	4.9	7.0
107.5°	0.2	0.7	1.5	3.7	4.8
110°	0.1	0.6	1.6	2.8	3.8

TEST NUMBER: P517220

CATALOG NUMBER: HVL12-1-LD4-2LO-40-UNV-C-EDD

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.2	0.5	1.5	2.3	2.8
115°	0.1	0.4	1.4	2.2	2.3
117.5°	0.2	0.3	1.1	2.2	2.3
120°	0.2	0.2	0.9	2.1	2.4
122.5°	0.2	0.2	0.7	1.9	2.3
125°	0.1	0.2	0.6	1.4	2.0
127.5°	0.2	0.2	0.5	1.2	1.5
130°	0.2	0.2	0.4	0.9	1.2
132.5°	0.2	0.2	0.3	0.7	0.9
135°	0.2	0.2	0.2	0.5	0.7
137.5°	0.0	0.0	0.0	0.0	0.0
140°	0.0	0.0	0.0	0.0	0.0
142.5°	0.0	0.0	0.0	0.0	0.0
145°	0.0	0.0	0.0	0.0	0.0
147.5°	0.0	0.0	0.0	0.0	0.0
150°	0.0	0.0	0.0	0.0	0.0
152.5°	0.0	0.0	0.0	0.0	0.0
155°	0.0	0.0	0.0	0.0	0.0
157.5°	0.0	0.0	0.0	0.0	0.0
160°	0.0	0.0	0.0	0.0	0.0
162.5°	0.0	0.0	0.0	0.0	0.0
165°	0.0	0.0	0.0	0.0	0.0
167.5°	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0
172.5°	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0
180°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)