

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: P517259

Luminaire Tested: HVL12-1-LD4-3LO-30-UNV-C-EDD-90

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: P517259
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL12-1-LD4-3LO-30-UNV-C-EDD-90
Description: 1 FOOT, 12 INCH WIDE, HVL LED LUMINAIRE, WITH 3000K, 90 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1842.0 lumens
Efficiency: N/A
Efficacy: 106.5 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

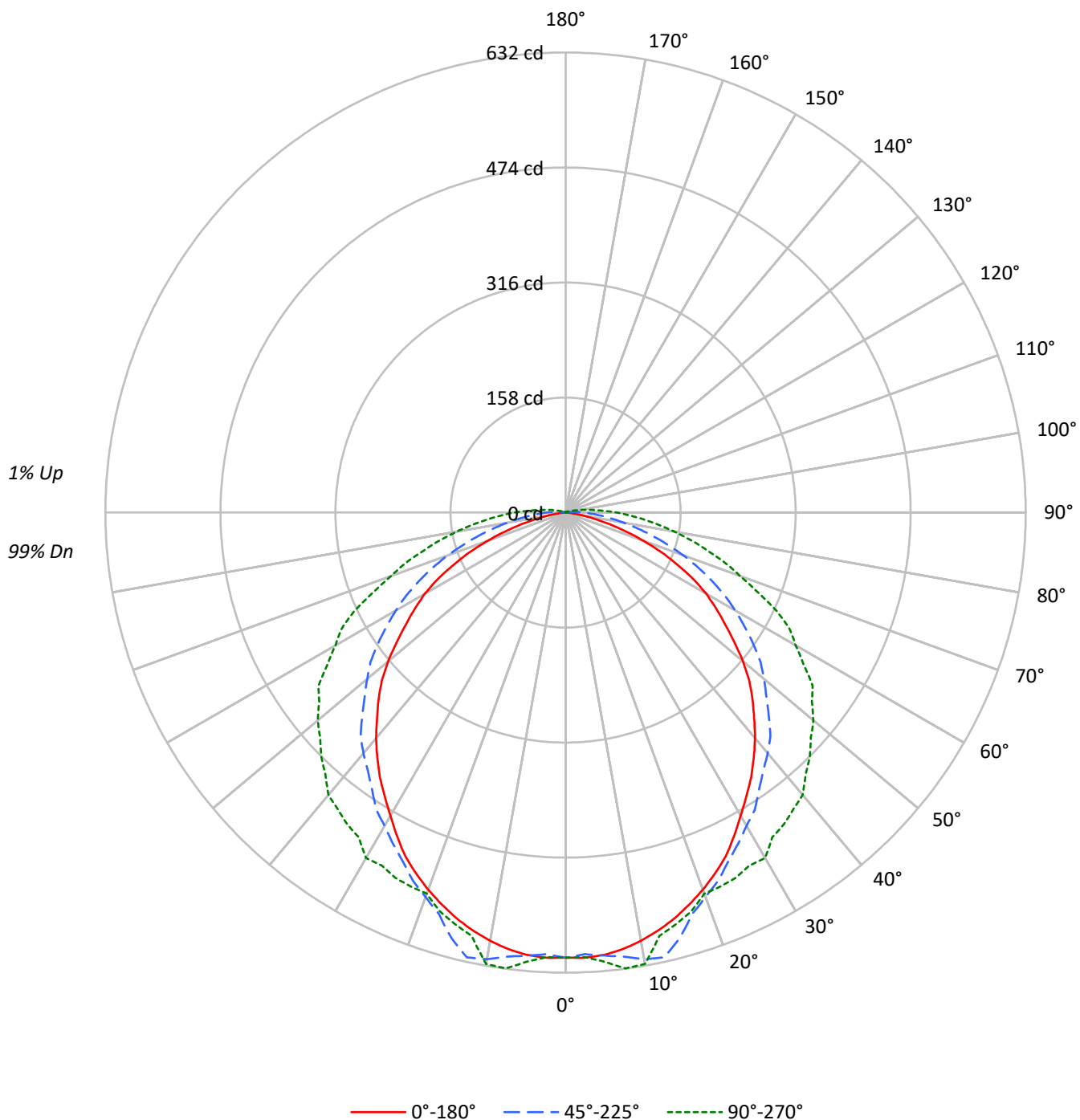
Input Watts (W): 17.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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: P517259

CATALOG NUMBER: HVL12-1-LD4-3LO-30-UNV-C-EDD-90

Luminous Intensity Polar Plot



TEST NUMBER: P517259

CATALOG NUMBER: HVL12-1-LD4-3LO-30-UNV-C-EDD-90

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°	6581	6581	6581
5°	6495	6466	6596
10°	6341	6538	6684
15°	6158	6344	6248
20°	5953	5929	6016
25°	5739	5657	6098
30°	5452	5437	6212
35°	5228	5228	6152
40°	4990	5065	6242
45°	4738	4862	6188
50°	4444	4649	6207
55°	4053	4421	6280
60°	3725	4115	6099
65°	3176	3752	6008
70°	2467	3291	5509
75°	1641	2737	5179
80°	822	2180	4850
85°	242	1611	4565

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 55°

Luminance: 6280 cd/sqm

TEST NUMBER: P517259

CATALOG NUMBER: HVL12-1-LD4-3LO-30-UNV-C-EDD-90

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	58.8	3.2
10°-20°	167.4	9.1
20°-30°	249.0	13.5
30°-40°	299.3	16.2
40°-50°	315.0	17.1
50°-60°	292.3	15.9
60°-70°	231.1	12.5
70°-80°	141.2	7.7
80°-90°	61.5	3.3
90°-100°	19.1	1.0
100°-110°	4.3	0.2
110°-120°	1.7	0.1
120°-130°	1.0	0.1
130°-140°	0.3	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°	475.1	25.8
0°-40°	774.4	42.0
0°-60°	1381.8	75.0
0°-90°	1815.6	98.6
90°-120°	25.2	1.4
90°-150°	26.4	1.4
90°-180°	26.0	1.4
0°-180°	1842.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	611	611	611	611	611	
5°	610	609	611	618	619	58
15°	577	600	605	585	586	163
25°	521	554	529	545	553	239
35°	444	457	464	506	523	278
45°	363	365	395	457	474	280
55°	267	272	315	384	414	240
65°	169	175	222	294	320	168
75°	64	85	124	190	202	70
85°	6	20	48	94	107	9
90°	0	6	25	59	70	0
95°	0	2	11	32	40	0
105°	0	1	2	6	9	0
115°	0	0	2	3	3	0
125°	0	0	1	2	3	0
135°	0	0	0	1	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: P517259

CATALOG NUMBER: HVL12-1-LD4-3LO-30-UNV-C-EDD-90

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	611.4	611.4	611.4	611.4	611.4
2.5°	612.2	610.6	607.2	610.4	611.3
5°	609.9	608.7	610.8	617.7	619.4
7.5°	604.8	609.6	615.2	627.6	631.6
10°	597.2	606.2	623.0	633.6	629.5
12.5°	588.0	603.2	625.8	605.1	595.5
15°	577.3	599.5	605.3	585.3	585.7
17.5°	564.7	596.4	578.3	577.8	574.2
20°	551.2	585.9	562.0	561.0	557.1
22.5°	536.6	572.1	547.5	545.6	556.0
25°	520.8	554.0	528.7	544.6	553.4
27.5°	501.0	530.4	513.0	535.5	546.6
30°	480.9	505.9	497.0	528.2	547.9
32.5°	462.1	480.4	483.8	525.5	528.7
35°	444.3	456.6	463.5	505.6	522.8
37.5°	424.7	428.1	446.3	497.2	513.8
40°	404.8	402.7	431.8	483.5	506.4
42.5°	383.4	382.6	416.5	476.7	488.1
45°	363.1	364.7	394.7	457.2	474.3
47.5°	342.3	344.4	374.0	435.9	457.1
50°	318.1	320.9	355.6	417.0	444.3
52.5°	292.0	297.2	337.7	399.1	426.6
55°	267.4	271.8	314.9	383.8	414.3
57.5°	245.0	247.6	291.3	364.4	387.5
60°	223.0	223.6	269.2	343.0	365.1
62.5°	197.7	198.8	246.4	317.7	347.3
65°	169.3	174.6	221.8	293.6	320.2
67.5°	142.7	152.1	196.8	271.4	285.4
70°	114.3	130.2	172.3	245.4	255.2
72.5°	88.3	106.9	147.1	216.2	230.1
75°	64.0	84.8	123.7	190.1	202.0
77.5°	43.1	64.3	101.8	161.2	177.0
80°	25.8	47.0	82.2	134.4	152.2
82.5°	13.2	31.5	63.8	112.7	128.7
85°	5.7	19.9	48.2	93.5	107.4
87.5°	1.6	11.3	35.5	75.6	87.3
90°	0.1	6.0	25.3	59.3	69.9
92.5°	0.1	2.9	17.8	44.8	52.9
95°	0.1	1.5	11.1	32.5	39.7
97.5°	0.1	0.9	6.7	23.0	29.1
100°	0.1	0.7	4.0	15.3	20.8
102.5°	0.1	0.9	2.7	9.7	13.6
105°	0.1	0.9	2.2	6.4	9.0
107.5°	0.2	0.9	2.0	4.7	6.2
110°	0.1	0.7	2.1	3.6	4.9

TEST NUMBER: P517259

CATALOG NUMBER: HVL12-1-LD4-3LO-30-UNV-C-EDD-90

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.2	0.6	2.0	3.0	3.6
115°	0.1	0.5	1.7	2.9	3.0
117.5°	0.2	0.4	1.4	2.9	3.0
120°	0.2	0.2	1.1	2.7	3.1
122.5°	0.2	0.2	0.9	2.5	3.0
125°	0.1	0.2	0.7	1.9	2.6
127.5°	0.2	0.2	0.6	1.5	2.0
130°	0.2	0.2	0.5	1.1	1.5
132.5°	0.2	0.2	0.4	0.9	1.1
135°	0.2	0.2	0.2	0.6	0.9
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)