

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: P517244

Luminaire Tested: HVL12-1-LD4-3HI-30-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: P517244
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL12-1-LD4-3HI-30-UNV-C-EDD
Description: 1 FOOT, 12 INCH WIDE, HVL LED LUMINAIRE, WITH 3000K, 80 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3523.0 lumens
Efficiency: N/A
Efficacy: 109.1 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

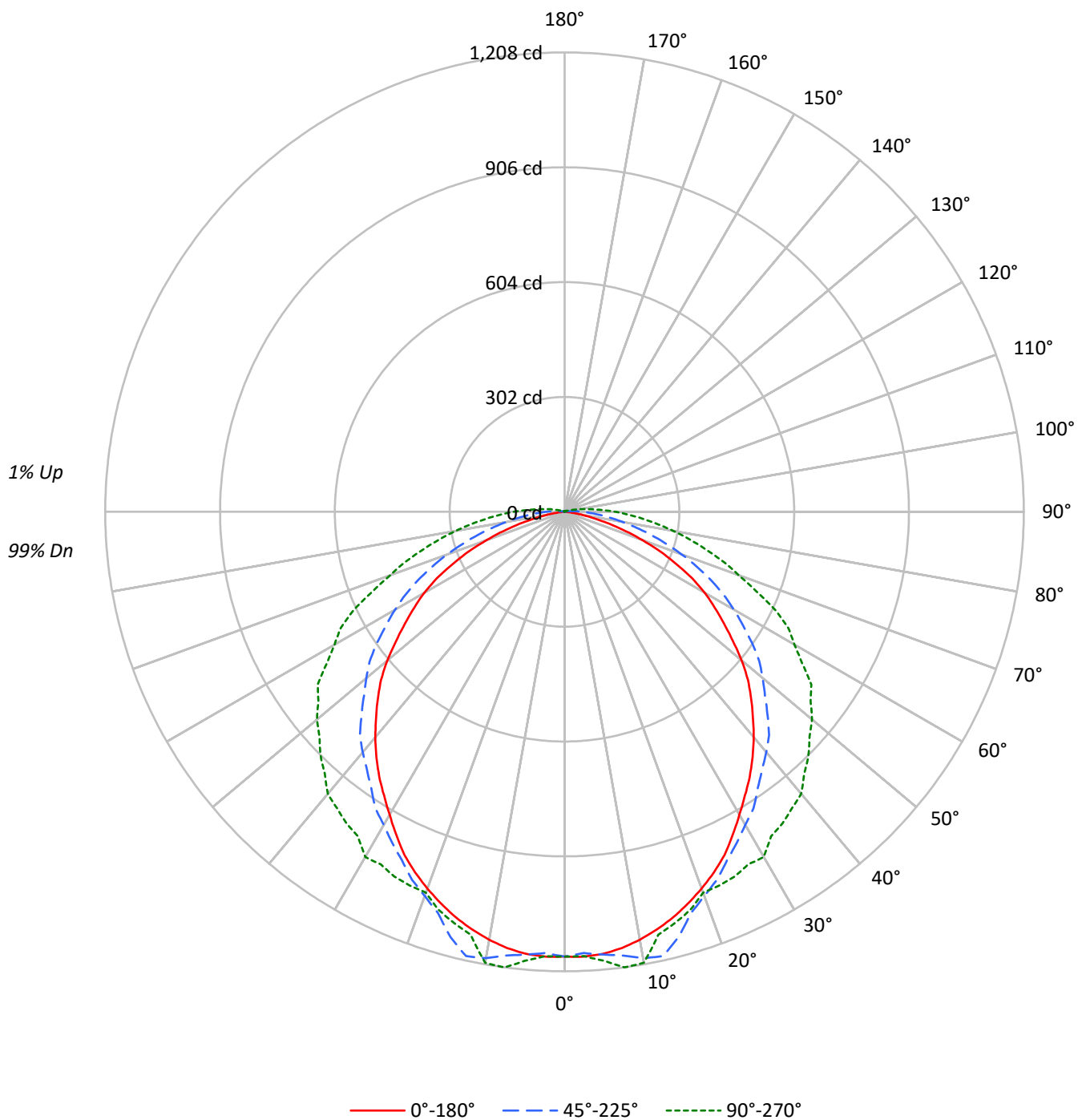
Input Watts (W): 32.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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: P517244

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

Luminous Intensity Polar Plot



TEST NUMBER: P517244

CATALOG NUMBER: HVL12-1-LD4-3HI-30-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
RCR																	
0	119	119	119	119	116	116	116	116	110	110	110		105	105	105		101
1	108	103	98	94	105	100	96	92	96	92	89		91	89	86		87
2	98	89	82	76	95	87	80	75	83	78	73		80	75	71		76
3	89	78	69	63	86	76	68	62	73	66	61		70	64	59		67
4	81	69	60	53	79	67	59	52	65	57	51		62	56	51		60
5	75	61	52	45	72	60	51	45	58	50	44		56	49	44		54
6	69	55	46	39	67	54	46	39	52	45	39		50	44	38		49
7	64	50	41	35	62	49	41	35	47	40	34		46	39	34		44
8	59	46	37	31	58	45	37	31	43	36	31		42	35	30		41
9	55	42	34	28	54	41	33	28	40	33	28		39	32	27		38
10	52	39	31	25	51	38	30	25	37	30	25		36	29	25		35

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	12587	12587	12587
5°	12424	12368	12617
10°	12129	12504	12784
15°	11779	12136	11948
20°	11384	11340	11508
25°	10976	10821	11664
30°	10429	10399	11881
35°	9998	9997	11764
40°	9544	9688	11940
45°	9060	9299	11837
50°	8500	8891	11871
55°	7753	8455	12009
60°	7123	7869	11663
65°	6073	7178	11492
70°	4721	6293	10536
75°	3138	5234	9907
80°	1571	4170	9275
85°	468	3082	8727

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 55°

Luminance: 12009 cd/sqm

TEST NUMBER: P517244

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

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	112.4	3.2
10°-20°	320.1	9.1
20°-30°	476.2	13.5
30°-40°	572.4	16.2
40°-50°	602.5	17.1
50°-60°	559.1	15.9
60°-70°	442.1	12.5
70°-80°	270.0	7.7
80°-90°	117.6	3.3
90°-100°	36.6	1.0
100°-110°	8.2	0.2
110°-120°	3.3	0.1
120°-130°	1.9	0.1
130°-140°	0.5	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°	908.7	25.8
0°-40°	1481.2	42.0
0°-60°	2642.8	75.0
0°-90°	3472.5	98.6
90°-120°	48.2	1.4
90°-150°	50.5	1.4
90°-180°	51.0	1.4
0°-180°	3523.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1169	1169	1169	1169	1169	
5°	1167	1164	1168	1181	1185	111
15°	1104	1147	1158	1119	1120	311
25°	996	1060	1011	1042	1058	457
35°	850	873	886	967	1000	531
45°	694	698	755	874	907	535
55°	512	520	602	734	792	460
65°	324	334	424	562	612	321
75°	122	162	237	364	386	134
85°	11	38	92	179	205	17
90°	0	11	48	113	134	1
95°	0	3	21	62	76	0
105°	0	2	4	12	17	0
115°	0	1	3	6	6	0
125°	0	0	1	4	5	0
135°	0	0	0	1	2	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: P517244

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

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1169.4	1169.4	1169.4	1169.4	1169.4
2.5°	1170.9	1167.8	1161.3	1167.5	1169.2
5°	1166.6	1164.2	1168.3	1181.4	1184.7
7.5°	1156.8	1165.9	1176.6	1200.4	1208.0
10°	1142.3	1159.4	1191.6	1211.8	1204.0
12.5°	1124.7	1153.7	1196.8	1157.3	1139.0
15°	1104.2	1146.6	1157.8	1119.4	1120.1
17.5°	1080.1	1140.6	1106.1	1105.1	1098.2
20°	1054.1	1120.6	1074.9	1073.0	1065.6
22.5°	1026.3	1094.2	1047.2	1043.4	1063.4
25°	996.0	1059.6	1011.3	1041.5	1058.4
27.5°	958.1	1014.4	981.2	1024.1	1045.3
30°	919.8	967.7	950.5	1010.3	1047.9
32.5°	883.8	918.8	925.3	1005.1	1011.3
35°	849.7	873.3	886.4	967.0	999.8
37.5°	812.3	818.8	853.6	951.0	982.7
40°	774.2	770.2	825.9	924.8	968.6
42.5°	733.3	731.8	796.6	911.7	933.6
45°	694.4	697.5	754.9	874.5	907.2
47.5°	654.6	658.7	715.4	833.8	874.3
50°	608.4	613.7	680.1	797.6	849.7
52.5°	558.4	568.4	645.8	763.3	815.9
55°	511.5	519.8	602.2	734.0	792.3
57.5°	468.6	473.6	557.2	697.0	741.1
60°	426.4	427.6	514.8	656.1	698.2
62.5°	378.1	380.2	471.2	607.7	664.2
65°	323.7	334.0	424.3	561.5	612.5
67.5°	273.0	290.9	376.4	519.1	545.8
70°	218.7	248.9	329.5	469.3	488.1
72.5°	168.9	204.4	281.3	413.6	440.0
75°	122.4	162.2	236.6	363.5	386.4
77.5°	82.4	122.9	194.6	308.3	338.5
80°	49.3	89.8	157.2	257.0	291.1
82.5°	25.3	60.3	122.0	215.6	246.1
85°	11.0	38.1	92.2	178.9	205.3
87.5°	3.1	21.7	67.9	144.6	167.0
90°	0.2	11.4	48.4	113.4	133.6
92.5°	0.2	5.5	34.1	85.8	101.2
95°	0.2	2.9	21.2	62.2	76.0
97.5°	0.2	1.7	12.9	44.1	55.7
100°	0.2	1.4	7.6	29.3	39.8
102.5°	0.2	1.7	5.2	18.6	26.0
105°	0.2	1.7	4.3	12.1	17.2
107.5°	0.5	1.7	3.8	9.1	11.9
110°	0.2	1.4	4.0	6.9	9.3

TEST NUMBER: P517244

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

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.5	1.2	3.8	5.7	6.9
115°	0.2	1.0	3.3	5.5	5.7
117.5°	0.5	0.7	2.6	5.5	5.7
120°	0.5	0.5	2.1	5.2	6.0
122.5°	0.5	0.5	1.7	4.8	5.7
125°	0.2	0.5	1.4	3.6	5.0
127.5°	0.5	0.5	1.2	2.9	3.8
130°	0.5	0.5	1.0	2.1	2.9
132.5°	0.5	0.5	0.7	1.7	2.1
135°	0.5	0.5	0.5	1.2	1.7
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)