

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: P517240

Luminaire Tested: HVL12-1-LD4-2STD-50-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: P517240
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL12-1-LD4-2STD-50-UNV-C-EDD
Description: 1 FOOT, 12 INCH WIDE, HVL LED LUMINAIRE, WITH 5000K, 80 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1871.0 lumens
Efficiency: N/A
Efficacy: 111.4 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

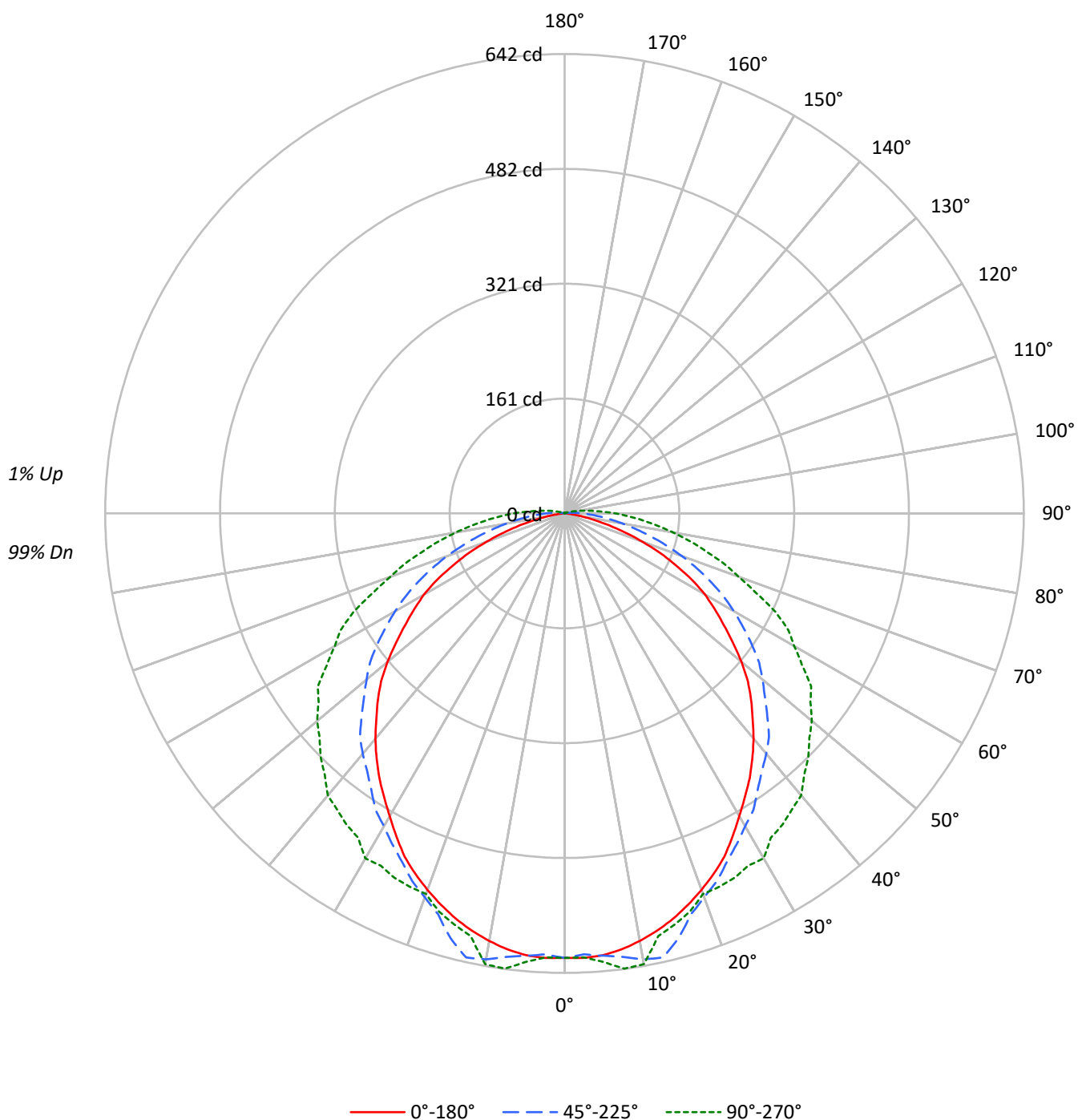
Input Watts (W): 16.8
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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: P517240

CATALOG NUMBER: HVL12-1-LD4-2STD-50-UNV-C-EDD

Luminous Intensity Polar Plot



TEST NUMBER: P517240

CATALOG NUMBER: HVL12-1-LD4-2STD-50-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°	6685	6685	6685
5°	6599	6568	6701
10°	6441	6640	6789
15°	6255	6445	6346
20°	6046	6022	6111
25°	5830	5747	6194
30°	5539	5523	6310
35°	5310	5310	6248
40°	5069	5145	6341
45°	4812	4938	6286
50°	4514	4722	6305
55°	4117	4490	6378
60°	3784	4179	6194
65°	3225	3811	6103
70°	2506	3343	5595
75°	1666	2779	5261
80°	835	2215	4926
85°	247	1638	4638

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 55°

Luminance: 6378 cd/sqm

TEST NUMBER: P517240

CATALOG NUMBER: HVL12-1-LD4-2STD-50-UNV-C-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	59.7	3.2
10°-20°	170.0	9.1
20°-30°	252.9	13.5
30°-40°	304.0	16.2
40°-50°	320.0	17.1
50°-60°	296.9	15.9
60°-70°	234.8	12.5
70°-80°	143.4	7.7
80°-90°	62.5	3.3
90°-100°	19.4	1.0
100°-110°	4.4	0.2
110°-120°	1.8	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°	482.6	25.8
0°-40°	786.6	42.0
0°-60°	1403.5	75.0
0°-90°	1844.2	98.6
90°-120°	25.6	1.4
90°-150°	26.9	1.4
90°-180°	27.0	1.4
0°-180°	1871.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	621	621	621	621	621	
5°	620	618	620	627	629	59
15°	586	609	615	594	595	165
25°	529	563	537	553	562	243
35°	451	464	471	514	531	282
45°	369	370	401	464	482	284
55°	272	276	320	390	421	244
65°	172	177	225	298	325	170
75°	65	86	126	193	205	71
85°	6	20	49	95	109	9
90°	0	6	26	60	71	0
95°	0	2	11	33	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: P517240

CATALOG NUMBER: HVL12-1-LD4-2STD-50-UNV-C-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	621.1	621.1	621.1	621.1	621.1
2.5°	621.8	620.2	616.8	620.1	620.9
5°	619.6	618.3	620.4	627.4	629.2
7.5°	614.4	619.2	624.9	637.5	641.6
10°	606.6	615.8	632.8	643.6	639.4
12.5°	597.3	612.7	635.6	614.6	604.9
15°	586.4	608.9	614.9	594.5	594.9
17.5°	573.6	605.8	587.4	586.9	583.2
20°	559.8	595.1	570.8	569.8	565.9
22.5°	545.0	581.1	556.2	554.1	564.8
25°	529.0	562.7	537.1	553.1	562.1
27.5°	508.8	538.7	521.1	543.9	555.2
30°	488.5	513.9	504.8	536.6	556.5
32.5°	469.4	488.0	491.4	533.8	537.1
35°	451.3	463.8	470.8	513.5	531.0
37.5°	431.4	434.8	453.3	505.1	521.9
40°	411.2	409.0	438.6	491.1	514.4
42.5°	389.4	388.7	423.1	484.2	495.8
45°	368.8	370.4	400.9	464.4	481.8
47.5°	347.7	349.8	379.9	442.8	464.3
50°	323.1	325.9	361.2	423.6	451.3
52.5°	296.6	301.9	343.0	405.4	433.3
55°	271.6	276.1	319.8	389.8	420.8
57.5°	248.9	251.5	295.9	370.2	393.6
60°	226.5	227.1	273.4	348.4	370.8
62.5°	200.8	201.9	250.2	322.7	352.7
65°	171.9	177.4	225.3	298.2	325.3
67.5°	145.0	154.5	199.9	275.7	289.8
70°	116.1	132.2	175.0	249.2	259.2
72.5°	89.7	108.6	149.4	219.6	233.7
75°	65.0	86.2	125.6	193.1	205.2
77.5°	43.8	65.3	103.4	163.7	179.8
80°	26.2	47.7	83.5	136.5	154.6
82.5°	13.4	32.0	64.8	114.5	130.7
85°	5.8	20.2	49.0	95.0	109.1
87.5°	1.6	11.5	36.1	76.8	88.7
90°	0.1	6.1	25.7	60.2	71.0
92.5°	0.1	2.9	18.1	45.5	53.8
95°	0.1	1.5	11.3	33.0	40.4
97.5°	0.1	0.9	6.8	23.4	29.6
100°	0.1	0.8	4.0	15.6	21.1
102.5°	0.1	0.9	2.8	9.9	13.8
105°	0.1	0.9	2.3	6.5	9.1
107.5°	0.3	0.9	2.0	4.8	6.3
110°	0.1	0.8	2.2	3.7	4.9

TEST NUMBER: P517240

CATALOG NUMBER: HVL12-1-LD4-2STD-50-UNV-C-EDD

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.3	0.6	2.0	3.0	3.7
115°	0.1	0.5	1.8	2.9	3.0
117.5°	0.3	0.4	1.4	2.9	3.0
120°	0.3	0.3	1.1	2.8	3.2
122.5°	0.3	0.3	0.9	2.5	3.0
125°	0.1	0.3	0.8	1.9	2.7
127.5°	0.3	0.3	0.6	1.5	2.0
130°	0.3	0.3	0.5	1.1	1.5
132.5°	0.3	0.3	0.4	0.9	1.1
135°	0.3	0.3	0.3	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)