

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: P517849

Luminaire Tested: HVL8-1-LD4-3LO-50-UNV-O-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: P517849
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-1-LD4-3LO-50-UNV-O-EDD-90
Description: 1 FOOT, 8 INCH WIDE, HVL LED LUMINAIRE, WITH 5000K, 90 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1987.0 lumens
Efficiency: N/A
Efficacy: 118.3 lumens/watt
Spacing Criteria (0/90/45): 1.25 / 1.27 / 1.38
Luminous Opening: Rectangular w/ Sides (W: 0.67' x L: 1' x H: 0.17')
CIE Type: Direct

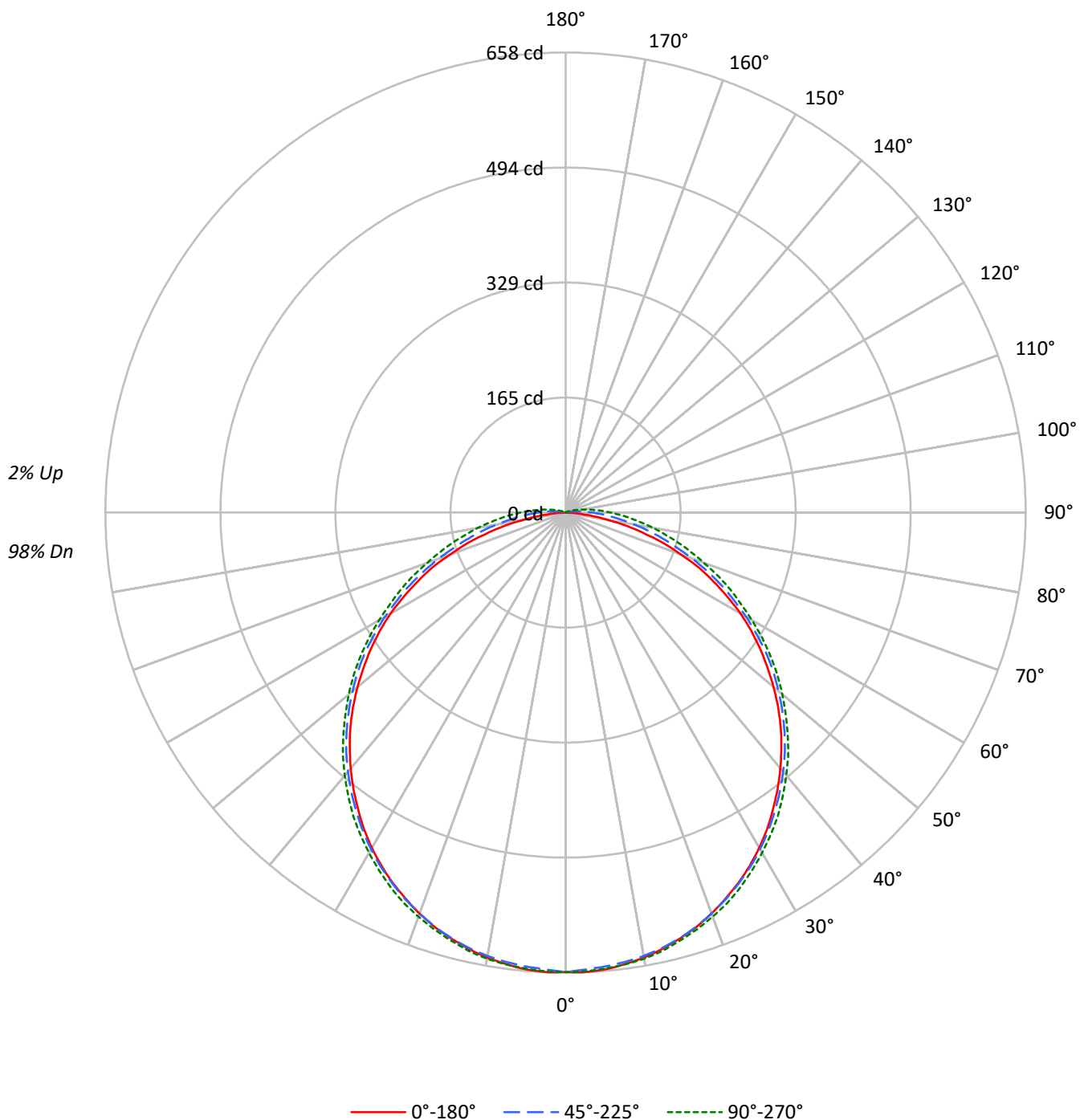
Input Watts (W): 16.8
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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: P517849

CATALOG NUMBER: HVL8-1-LD4-3LO-50-UNV-O-EDD-90

Luminous Intensity Polar Plot



TEST NUMBER: P517849

CATALOG NUMBER: HVL8-1-LD4-3LO-50-UNV-O-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
RCR																	
0	119	119	119	119	116	116	116	116	110	110	110		105	105	105		101
1	108	102	98	94	105	100	96	92	95	92	89		91	88	86		87
2	98	89	82	76	95	87	80	75	83	77	73		79	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	52		62	56	51		60
5	75	61	52	45	72	60	52	45	58	50	44		56	49	44		54
6	69	55	46	40	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°	10611	10611	10611
5°	10476	10295	10384
10°	10293	10037	10175
15°	10093	9763	9926
20°	9888	9469	9684
25°	9662	9172	9437
30°	9417	8862	9158
35°	9132	8527	8880
40°	8837	8181	8556
45°	8519	7809	8207
50°	8139	7389	7832
55°	7724	6936	7417
60°	7244	6373	6933
65°	6571	5752	6453
70°	5689	5040	5896
75°	4546	4272	5389
80°	3049	3516	4926
85°	1301	2752	4485

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 8519 cd/sqm

TEST NUMBER: P517849

CATALOG NUMBER: HVL8-1-LD4-3LO-50-UNV-O-EDD-90

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	62.2	3.1
10°-20°	178.4	9.0
20°-30°	270.7	13.6
30°-40°	327.3	16.5
40°-50°	341.5	17.2
50°-60°	312.2	15.7
60°-70°	243.4	12.2
70°-80°	152.3	7.7
80°-90°	69.2	3.5
90°-100°	23.2	1.2
100°-110°	5.8	0.3
110°-120°	0.9	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°	511.2	25.7
0°-40°	838.5	42.2
0°-60°	1492.3	75.1
0°-90°	1957.1	98.5
90°-120°	29.9	1.5
90°-150°	29.9	1.5
90°-180°	30.0	1.5
0°-180°	1987.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	657	657	657	657	657	
5°	656	654	652	655	655	62
15°	631	632	630	634	634	178
25°	584	585	586	591	592	269
35°	517	520	522	527	529	324
45°	435	439	443	447	449	335
55°	340	344	350	355	358	304
65°	234	238	246	256	260	231
75°	118	126	144	161	167	126
85°	20	38	65	86	93	26
90°	0	14	38	58	64	1
95°	0	4	20	36	42	0
105°	0	0	3	10	13	0
115°	0	0	1	2	2	0
125°	0	0	0	0	0	0
135°	0	0	0	0	0	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: P517849

CATALOG NUMBER: HVL8-1-LD4-3LO-50-UNV-O-EDD-90

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	657.2	657.2	657.2	657.2	657.2
2.5°	658.0	657.0	654.1	657.0	656.9
5°	655.8	654.5	651.6	654.7	654.7
7.5°	651.4	651.0	648.3	651.9	651.9
10°	646.3	646.2	644.0	647.9	648.0
12.5°	639.2	639.8	637.8	641.5	642.0
15°	630.8	631.9	630.2	633.8	633.6
17.5°	621.7	622.3	621.1	625.1	625.0
20°	610.4	611.2	610.2	614.4	614.9
22.5°	597.8	598.9	598.8	603.1	604.4
25°	584.5	585.0	585.6	590.6	591.5
27.5°	569.8	570.6	571.7	576.2	577.1
30°	553.7	554.9	556.2	560.8	562.1
32.5°	536.7	537.9	539.4	545.5	546.1
35°	517.4	519.8	521.9	527.2	529.4
37.5°	498.2	501.2	503.2	508.8	510.5
40°	477.9	480.9	484.1	490.0	491.1
42.5°	456.7	460.1	464.0	469.3	471.1
45°	435.3	439.2	442.8	447.1	449.3
47.5°	412.2	416.1	420.5	425.4	426.8
50°	388.4	392.9	397.5	402.2	404.7
52.5°	363.9	369.3	374.6	379.6	381.9
55°	339.7	343.8	350.1	355.2	357.6
57.5°	314.6	318.1	323.8	332.2	333.4
60°	289.1	292.2	298.1	304.9	307.7
62.5°	260.9	265.1	271.3	279.9	282.4
65°	233.5	237.5	245.7	255.5	259.5
67.5°	207.0	208.4	218.9	229.1	235.6
70°	175.7	180.9	193.2	205.7	210.7
72.5°	148.7	154.0	167.5	182.2	188.4
75°	118.2	125.5	143.8	161.0	167.0
77.5°	91.4	99.5	122.1	139.4	146.4
80°	63.8	76.4	101.0	120.5	128.1
82.5°	40.1	55.6	82.0	102.4	109.1
85°	20.4	37.8	64.9	85.8	93.4
87.5°	5.4	24.5	50.5	70.5	78.2
90°	0.2	14.1	38.3	57.5	64.4
92.5°	0.2	7.9	28.5	45.7	52.8
95°	0.2	3.7	19.8	35.9	41.5
97.5°	0.2	1.5	13.6	27.1	32.7
100°	0.2	0.8	8.7	19.7	24.5
102.5°	0.3	0.5	5.4	14.1	18.0
105°	0.3	0.5	3.3	9.6	12.9
107.5°	0.3	0.5	1.9	6.5	8.8
110°	0.5	0.5	1.1	4.0	5.9

TEST NUMBER: P517849

CATALOG NUMBER: HVL8-1-LD4-3LO-50-UNV-O-EDD-90

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.5	0.5	0.6	2.6	3.9
115°	0.5	0.5	0.6	1.7	2.5
117.5°	0.0	0.0	0.0	0.0	0.0
120°	0.0	0.0	0.0	0.0	0.0
122.5°	0.0	0.0	0.0	0.0	0.0
125°	0.0	0.0	0.0	0.0	0.0
127.5°	0.0	0.0	0.0	0.0	0.0
130°	0.0	0.0	0.0	0.0	0.0
132.5°	0.0	0.0	0.0	0.0	0.0
135°	0.0	0.0	0.0	0.0	0.0
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)