

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: P517895

Luminaire Tested: HVL8-2-LD4-1LO-50-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: P517895
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-2-LD4-1LO-50-UNV-C-EDD-90
Description: 2 FOOT, 8 INCH WIDE, HVL LED LUMINAIRE, WITH 5000K, 90 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1275.0 lumens
Efficiency: N/A
Efficacy: 110.9 lumens/watt
Spacing Criteria (0/90/45): 1.18 / 1.32 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.67' x L: 2' x H: 0.17')
CIE Type: Direct

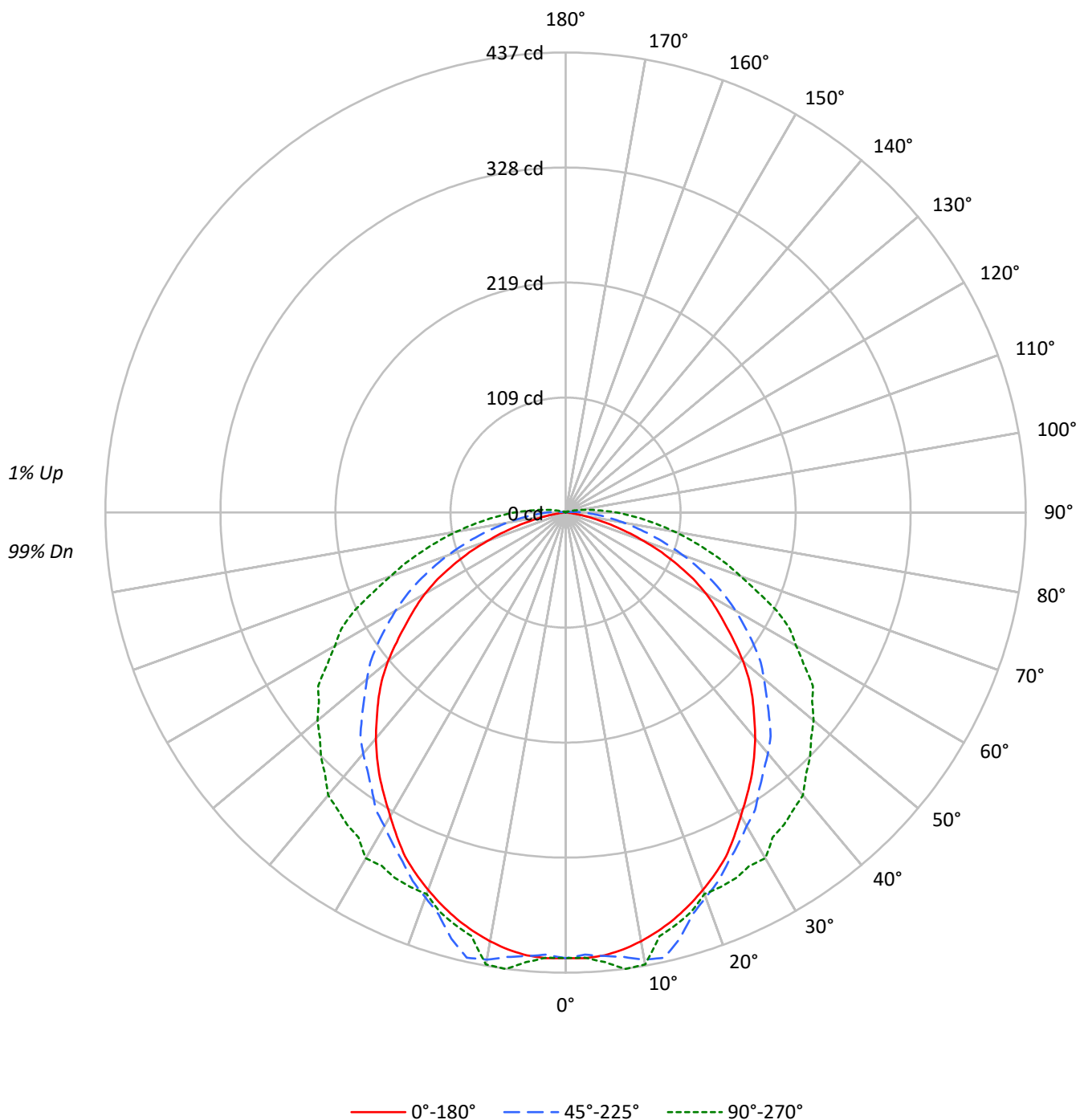
Input Watts (W): 11.5
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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: P517895

CATALOG NUMBER: HVL8-2-LD4-1LO-50-UNV-C-EDD-90

Luminous Intensity Polar Plot



TEST NUMBER: P517895

CATALOG NUMBER: HVL8-2-LD4-1LO-50-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
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	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°	3416	3416	3416
5°	3397	3357	3400
10°	3340	3394	3421
15°	3267	3294	3175
20°	3181	3078	3036
25°	3091	2937	3056
30°	2961	2823	3090
35°	2863	2714	3034
40°	2760	2630	3054
45°	2648	2524	2998
50°	2516	2413	2975
55°	2328	2295	2974
60°	2177	2136	2847
65°	1899	1948	2757
70°	1519	1708	2472
75°	1054	1420	2256
80°	562	1132	2026
85°	190	837	1784

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 45°

Luminance: 2998 cd/sqm

TEST NUMBER: P517895

CATALOG NUMBER: HVL8-2-LD4-1LO-50-UNV-C-EDD-90

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	40.7	3.2
10°-20°	115.8	9.1
20°-30°	172.4	13.5
30°-40°	207.2	16.2
40°-50°	218.1	17.1
50°-60°	202.3	15.9
60°-70°	160.0	12.5
70°-80°	97.7	7.7
80°-90°	42.6	3.3
90°-100°	13.2	1.0
100°-110°	3.0	0.2
110°-120°	1.2	0.1
120°-130°	0.7	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°	328.9	25.8
0°-40°	536.0	42.0
0°-60°	956.4	75.0
0°-90°	1256.7	98.6
90°-120°	17.4	1.4
90°-150°	18.3	1.4
90°-180°	18.0	1.4
0°-180°	1275.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	423	423	423	423	423	
5°	422	421	423	428	429	40
15°	400	415	419	405	405	113
25°	360	384	366	377	383	165
35°	308	316	321	350	362	192
45°	251	252	273	316	328	194
55°	185	188	218	266	287	166
65°	117	121	154	203	222	116
75°	44	59	86	132	140	48
85°	4	14	33	65	74	6
90°	0	4	18	41	48	0
95°	0	1	8	22	28	0
105°	0	1	2	4	6	0
115°	0	0	1	2	2	0
125°	0	0	0	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: P517895

CATALOG NUMBER: HVL8-2-LD4-1LO-50-UNV-C-EDD-90

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	423.2	423.2	423.2	423.2	423.2
2.5°	423.7	422.6	420.3	422.5	423.1
5°	422.2	421.3	422.8	427.5	428.7
7.5°	418.7	421.9	425.8	434.4	437.2
10°	413.4	419.6	431.2	438.6	435.7
12.5°	407.0	417.5	433.1	418.8	412.2
15°	399.6	415.0	419.0	405.1	405.4
17.5°	390.9	412.8	400.3	400.0	397.5
20°	381.5	405.6	389.0	388.3	385.6
22.5°	371.4	396.0	379.0	377.6	384.9
25°	360.5	383.5	366.0	376.9	383.1
27.5°	346.8	367.1	355.1	370.6	378.3
30°	332.9	350.2	344.0	365.6	379.3
32.5°	319.9	332.5	334.9	363.7	366.0
35°	307.5	316.1	320.8	349.9	361.8
37.5°	294.0	296.3	308.9	344.2	355.6
40°	280.2	278.7	298.9	334.7	350.6
42.5°	265.4	264.9	288.3	329.9	337.9
45°	251.3	252.4	273.2	316.5	328.3
47.5°	236.9	238.4	258.9	301.8	316.4
50°	220.2	222.1	246.1	288.6	307.5
52.5°	202.1	205.7	233.7	276.2	295.3
55°	185.1	188.1	218.0	265.6	286.8
57.5°	169.6	171.4	201.7	252.3	268.2
60°	154.3	154.8	186.3	237.4	252.7
62.5°	136.8	137.6	170.5	219.9	240.4
65°	117.2	120.9	153.5	203.2	221.7
67.5°	98.8	105.3	136.2	187.9	197.5
70°	79.1	90.1	119.2	169.8	176.7
72.5°	61.1	74.0	101.8	149.7	159.2
75°	44.3	58.7	85.6	131.6	139.8
77.5°	29.8	44.5	70.4	111.6	122.5
80°	17.8	32.5	56.9	93.0	105.4
82.5°	9.1	21.8	44.1	78.0	89.1
85°	4.0	13.8	33.4	64.7	74.3
87.5°	1.1	7.8	24.6	52.3	60.4
90°	0.1	4.1	17.5	41.0	48.4
92.5°	0.1	2.0	12.3	31.0	36.6
95°	0.1	1.0	7.7	22.5	27.5
97.5°	0.1	0.6	4.7	15.9	20.2
100°	0.1	0.5	2.8	10.6	14.4
102.5°	0.1	0.6	1.9	6.7	9.4
105°	0.1	0.6	1.6	4.4	6.2
107.5°	0.2	0.6	1.4	3.3	4.3
110°	0.1	0.5	1.5	2.5	3.4

TEST NUMBER: P517895

CATALOG NUMBER: HVL8-2-LD4-1LO-50-UNV-C-EDD-90

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.2	0.4	1.4	2.1	2.5
115°	0.1	0.3	1.2	2.0	2.1
117.5°	0.2	0.3	0.9	2.0	2.1
120°	0.2	0.2	0.8	1.9	2.2
122.5°	0.2	0.2	0.6	1.7	2.1
125°	0.1	0.2	0.5	1.3	1.8
127.5°	0.2	0.2	0.4	1.0	1.4
130°	0.2	0.2	0.3	0.8	1.0
132.5°	0.2	0.2	0.3	0.6	0.8
135°	0.2	0.2	0.2	0.4	0.6
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)