

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: P517768

Luminaire Tested: HVL8-1-LD4-1STD-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: P517768
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-1-LD4-1STD-50-UNV-C-EDD
Description: 1 FOOT, 8 INCH WIDE, HVL LED LUMINAIRE, WITH 5000K, 80 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 944.0 lumens
Efficiency: N/A
Efficacy: 115.1 lumens/watt
Spacing Criteria (0/90/45): 1.18 / 1.32 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.67' x L: 1' x H: 0.17')
CIE Type: Direct

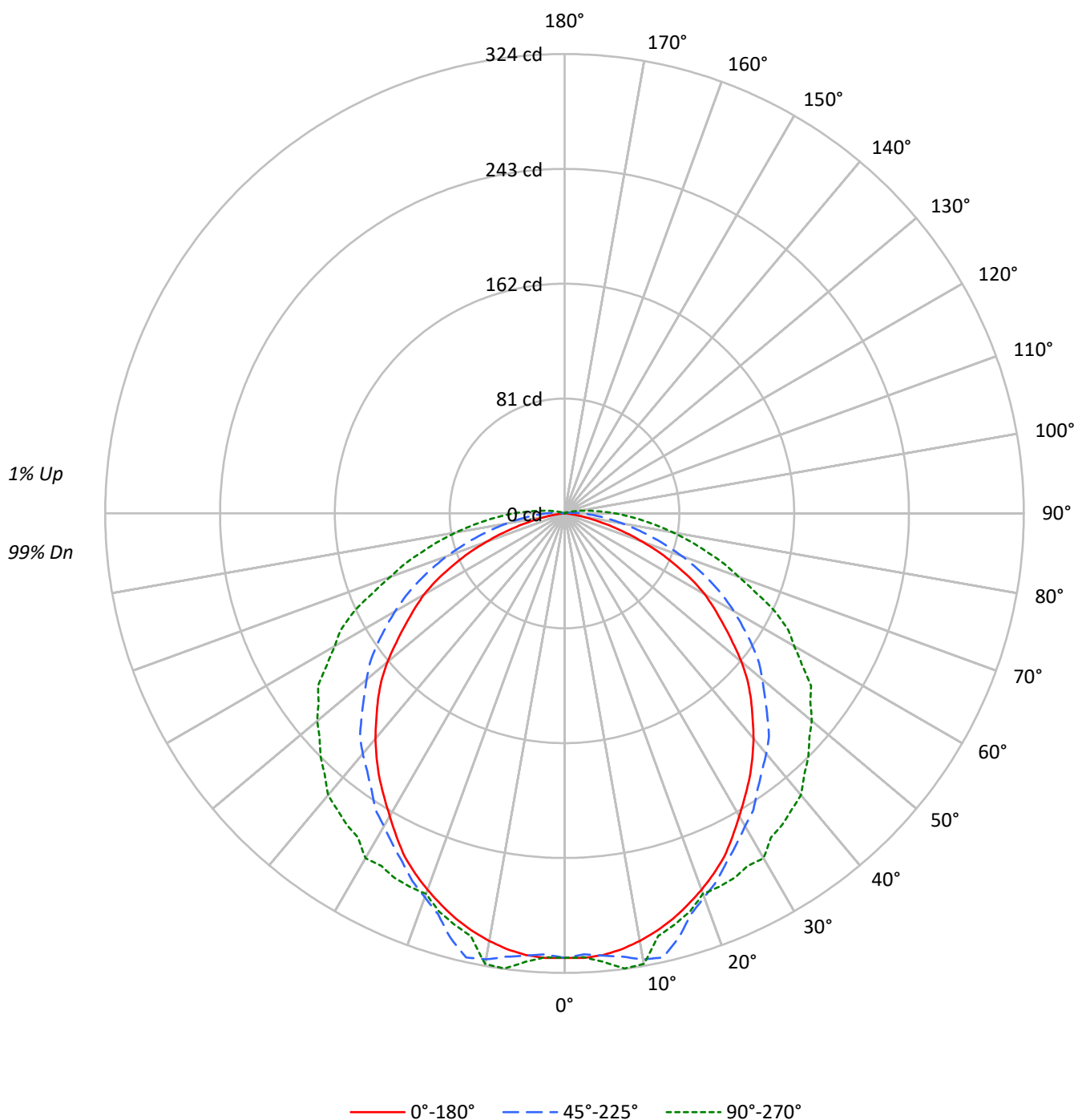
Input Watts (W): 8.2
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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: P517768

CATALOG NUMBER: HVL8-1-LD4-1STD-50-UNV-C-EDD

Luminous Intensity Polar Plot



TEST NUMBER: P517768

CATALOG NUMBER: HVL8-1-LD4-1STD-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	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°	5060	5060	5060
5°	4994	4945	5034
10°	4875	4976	5066
15°	4735	4806	4701
20°	4576	4469	4496
25°	4412	4245	4525
30°	4192	4058	4575
35°	4019	3881	4494
40°	3837	3740	4521
45°	3642	3568	4441
50°	3416	3387	4406
55°	3115	3198	4404
60°	2864	2948	4216
65°	2440	2662	4081
70°	1897	2303	3660
75°	1261	1884	3340
80°	631	1465	2999
85°	185	1047	2641

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 45°

Luminance: 4441 cd/sqm

TEST NUMBER: P517768

CATALOG NUMBER: HVL8-1-LD4-1STD-50-UNV-C-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	30.1	3.2
10°-20°	85.8	9.1
20°-30°	127.6	13.5
30°-40°	153.4	16.2
40°-50°	161.5	17.1
50°-60°	149.8	15.9
60°-70°	118.5	12.5
70°-80°	72.4	7.7
80°-90°	31.5	3.3
90°-100°	9.8	1.0
100°-110°	2.2	0.2
110°-120°	0.9	0.1
120°-130°	0.5	0.1
130°-140°	0.1	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°	243.5	25.8
0°-40°	396.9	42.0
0°-60°	708.1	75.0
0°-90°	930.5	98.6
90°-120°	12.9	1.4
90°-150°	13.5	1.4
90°-180°	14.0	1.5
0°-180°	944.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	313	313	313	313	313	
5°	313	312	313	316	317	30
15°	296	307	310	300	300	83
25°	267	284	271	279	284	123
35°	228	234	238	259	268	142
45°	186	187	202	234	243	143
55°	137	139	161	197	212	123
65°	87	90	114	150	164	86
75°	33	44	63	97	104	36
85°	3	10	25	48	55	5
90°	0	3	13	30	36	0
95°	0	1	6	17	20	0
105°	0	0	1	3	5	0
115°	0	0	1	2	2	0
125°	0	0	0	1	1	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: P517768

CATALOG NUMBER: HVL8-1-LD4-1STD-50-UNV-C-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	313.4	313.4	313.4	313.4	313.4
2.5°	313.7	312.9	311.2	312.8	313.3
5°	312.6	312.0	313.0	316.5	317.4
7.5°	310.0	312.4	315.3	321.7	323.7
10°	306.1	310.7	319.3	324.7	322.6
12.5°	301.4	309.1	320.7	310.1	305.2
15°	295.9	307.2	310.2	300.0	300.1
17.5°	289.4	305.6	296.4	296.1	294.3
20°	282.5	300.3	288.0	287.5	285.5
22.5°	275.0	293.2	280.6	279.6	285.0
25°	266.9	283.9	271.0	279.1	283.6
27.5°	256.7	271.8	262.9	274.4	280.1
30°	246.5	259.3	254.7	270.7	280.8
32.5°	236.8	246.2	247.9	269.3	271.0
35°	227.7	234.0	237.5	259.1	267.9
37.5°	217.7	219.4	228.7	254.8	263.3
40°	207.5	206.4	221.3	247.8	259.5
42.5°	196.5	196.1	213.5	244.3	250.2
45°	186.1	186.9	202.3	234.3	243.1
47.5°	175.4	176.5	191.7	223.4	234.3
50°	163.0	164.4	182.2	213.7	227.7
52.5°	149.6	152.3	173.1	204.5	218.6
55°	137.0	139.3	161.4	196.7	212.3
57.5°	125.6	126.9	149.3	186.8	198.6
60°	114.3	114.6	137.9	175.8	187.1
62.5°	101.3	101.9	126.3	162.8	178.0
65°	86.7	89.5	113.7	150.5	164.1
67.5°	73.2	77.9	100.9	139.1	146.2
70°	58.6	66.7	88.3	125.8	130.8
72.5°	45.3	54.8	75.4	110.8	117.9
75°	32.8	43.5	63.4	97.4	103.5
77.5°	22.1	32.9	52.2	82.6	90.7
80°	13.2	24.1	42.1	68.9	78.0
82.5°	6.8	16.1	32.7	57.8	65.9
85°	2.9	10.2	24.7	47.9	55.0
87.5°	0.8	5.8	18.2	38.7	44.7
90°	0.1	3.1	13.0	30.4	35.8
92.5°	0.1	1.5	9.1	23.0	27.1
95°	0.1	0.8	5.7	16.7	20.4
97.5°	0.1	0.4	3.4	11.8	14.9
100°	0.1	0.4	2.0	7.9	10.7
102.5°	0.1	0.4	1.4	5.0	7.0
105°	0.1	0.4	1.1	3.3	4.6
107.5°	0.1	0.4	1.0	2.4	3.2
110°	0.1	0.4	1.1	1.9	2.5

TEST NUMBER: P517768

CATALOG NUMBER: HVL8-1-LD4-1STD-50-UNV-C-EDD

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.1	0.3	1.0	1.5	1.9
115°	0.1	0.3	0.9	1.5	1.5
117.5°	0.1	0.2	0.7	1.5	1.5
120°	0.1	0.1	0.6	1.4	1.6
122.5°	0.1	0.1	0.4	1.3	1.5
125°	0.1	0.1	0.4	1.0	1.3
127.5°	0.1	0.1	0.3	0.8	1.0
130°	0.1	0.1	0.3	0.6	0.8
132.5°	0.1	0.1	0.2	0.4	0.6
135°	0.1	0.1	0.1	0.3	0.4
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)