

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: P517738

Luminaire Tested: HVL8-1-LD4-1HI-50-UNV-O-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: P517738
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-1-LD4-1HI-50-UNV-O-EDD
Description: 1 FOOT, 8 INCH WIDE, HVL LED LUMINAIRE, WITH 5000K, 80 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

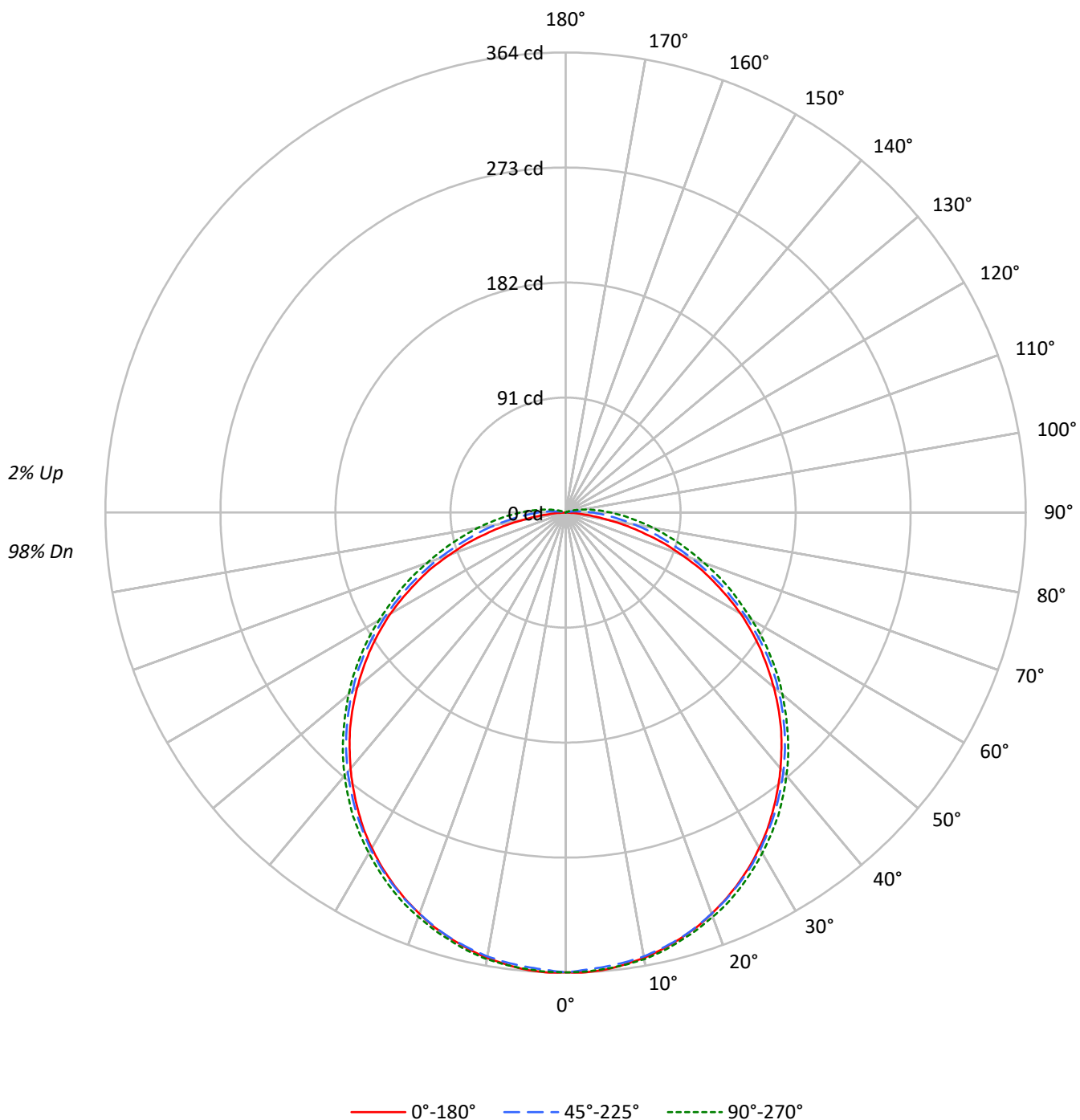
Lumens per Lamp: N/A
Luminaire Lumens: 1100.0 lumens
Efficiency: N/A
Efficacy: 102.8 lumens/watt
Spacing Criteria (0/90/45): 1.25 / 1.27 / 1.38
Luminous Opening: Rectangular w/ Sides (W: 0.67' x L: 1' x H: 0.17')
CIE Type: Direct

Input Watts (W): 10.7
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: P517738
CATALOG NUMBER: HVL8-1-LD4-1HI-50-UNV-O-EDD

Luminous Intensity Polar Plot



TEST NUMBER: P517738

CATALOG NUMBER: HVL8-1-LD4-1HI-50-UNV-O-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			98
1	108	102	98	94	105	100	96	92	95	92	89	91	88	86	87	85	83			81
2	98	89	82	76	95	87	80	75	83	77	73	79	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	52	62	56	51	60	54	50			47
5	75	61	52	45	72	60	52	45	58	50	44	56	49	44	54	48	43			41
6	69	55	46	40	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°	5874	5874	5874
5°	5799	5699	5748
10°	5699	5556	5634
15°	5587	5405	5496
20°	5474	5242	5361
25°	5349	5078	5224
30°	5213	4906	5070
35°	5057	4720	4916
40°	4893	4529	4737
45°	4717	4323	4543
50°	4505	4092	4335
55°	4277	3839	4105
60°	4009	3528	3837
65°	3636	3184	3574
70°	3150	2789	3263
75°	2515	2365	2985
80°	1687	1946	2726
85°	721	1522	2482

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 4717 cd/sqm

TEST NUMBER: P517738

CATALOG NUMBER: HVL8-1-LD4-1HI-50-UNV-O-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	34.4	3.1
10°-20°	98.8	9.0
20°-30°	149.8	13.6
30°-40°	181.2	16.5
40°-50°	189.1	17.2
50°-60°	172.9	15.7
60°-70°	134.7	12.2
70°-80°	84.3	7.7
80°-90°	38.3	3.5
90°-100°	12.8	1.2
100°-110°	3.2	0.3
110°-120°	0.5	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°	283.0	25.7
0°-40°	464.2	42.2
0°-60°	826.1	75.1
0°-90°	1083.5	98.5
90°-120°	16.6	1.5
90°-150°	16.6	1.5
90°-180°	17.0	1.5
0°-180°	1100.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	364	364	364	364	364	
5°	363	362	361	362	362	34
15°	349	350	349	351	351	99
25°	324	324	324	327	327	149
35°	286	288	289	292	293	179
45°	241	243	245	248	249	186
55°	188	190	194	197	198	168
65°	129	132	136	141	144	128
75°	65	70	80	89	92	70
85°	11	21	36	48	52	14
90°	0	8	21	32	36	0
95°	0	2	11	20	23	0
105°	0	0	2	5	7	0
115°	0	0	0	1	1	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: P517738

CATALOG NUMBER: HVL8-1-LD4-1HI-50-UNV-O-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	363.8	363.8	363.8	363.8	363.8
2.5°	364.2	363.7	362.1	363.7	363.6
5°	363.0	362.4	360.7	362.4	362.4
7.5°	360.6	360.4	358.9	360.9	360.9
10°	357.8	357.7	356.5	358.7	358.8
12.5°	353.9	354.2	353.1	355.2	355.4
15°	349.2	349.8	348.9	350.9	350.8
17.5°	344.2	344.5	343.8	346.1	346.0
20°	337.9	338.3	337.8	340.1	340.4
22.5°	331.0	331.6	331.5	333.9	334.6
25°	323.6	323.8	324.2	326.9	327.4
27.5°	315.4	315.9	316.5	319.0	319.5
30°	306.5	307.2	307.9	310.5	311.2
32.5°	297.1	297.8	298.6	302.0	302.3
35°	286.5	287.7	288.9	291.9	293.1
37.5°	275.8	277.4	278.6	281.7	282.6
40°	264.6	266.2	268.0	271.3	271.9
42.5°	252.8	254.7	256.9	259.8	260.8
45°	241.0	243.1	245.1	247.5	248.7
47.5°	228.2	230.4	232.8	235.5	236.3
50°	215.0	217.5	220.1	222.6	224.0
52.5°	201.5	204.5	207.4	210.1	211.4
55°	188.1	190.3	193.8	196.7	197.9
57.5°	174.2	176.1	179.2	183.9	184.6
60°	160.0	161.8	165.0	168.8	170.3
62.5°	144.4	146.7	150.2	155.0	156.3
65°	129.2	131.5	136.0	141.4	143.7
67.5°	114.6	115.4	121.2	126.8	130.4
70°	97.3	100.2	106.9	113.9	116.6
72.5°	82.3	85.3	92.7	100.9	104.3
75°	65.4	69.5	79.6	89.1	92.5
77.5°	50.6	55.1	67.6	77.2	81.0
80°	35.3	42.3	55.9	66.7	70.9
82.5°	22.2	30.8	45.4	56.7	60.4
85°	11.3	20.9	35.9	47.5	51.7
87.5°	3.0	13.6	28.0	39.0	43.3
90°	0.1	7.8	21.2	31.8	35.7
92.5°	0.1	4.4	15.8	25.3	29.2
95°	0.1	2.1	11.0	19.9	23.0
97.5°	0.1	0.9	7.5	15.0	18.1
100°	0.1	0.4	4.8	10.9	13.6
102.5°	0.2	0.3	3.0	7.8	9.9
105°	0.2	0.3	1.8	5.3	7.1
107.5°	0.2	0.3	1.0	3.6	4.9
110°	0.3	0.3	0.6	2.2	3.3

TEST NUMBER: P517738

CATALOG NUMBER: HVL8-1-LD4-1HI-50-UNV-O-EDD

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.3	0.3	0.3	1.5	2.1
115°	0.3	0.3	0.3	0.9	1.4
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)