

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: P517914

Luminaire Tested: HVL8-2-LD4-1STD-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: P517914
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-2-LD4-1STD-50-UNV-O-EDD
Description: 2 FOOT, 8 INCH WIDE, HVL LED LUMINAIRE, WITH 5000K, 80 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1487.0 lumens
Efficiency: N/A
Efficacy: 91.2 lumens/watt
Spacing Criteria (0/90/45): 1.25 / 1.27 / 1.38
Luminous Opening: Rectangular w/ Sides (W: 0.67' x L: 2' x H: 0.17')
CIE Type: Direct

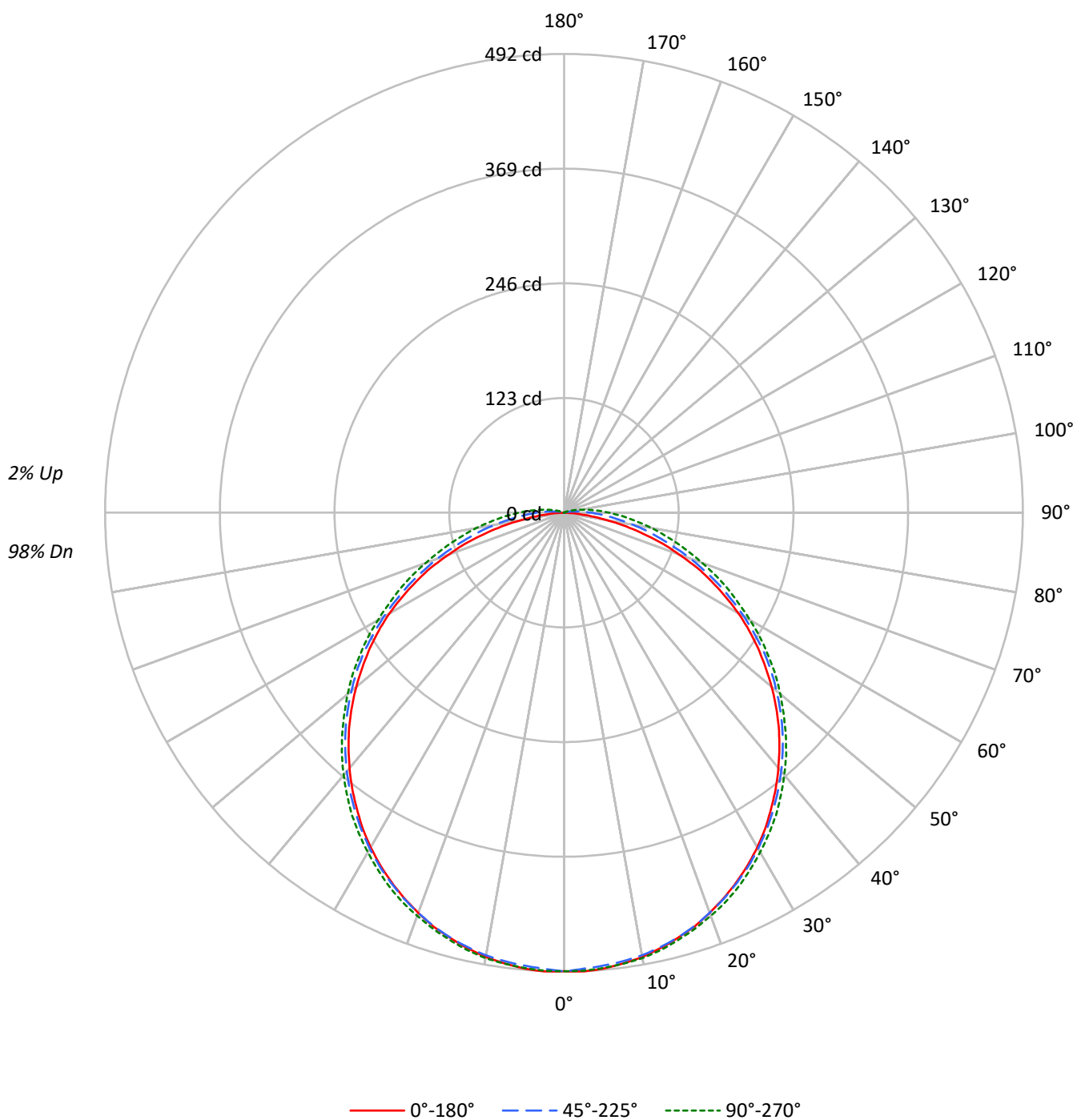
Input Watts (W): 16.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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: P517914

CATALOG NUMBER: HVL8-2-LD4-1STD-50-UNV-O-EDD

Luminous Intensity Polar Plot



TEST NUMBER: P517914

CATALOG NUMBER: HVL8-2-LD4-1STD-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°	3970	3970	3970
5°	3949	3872	3886
10°	3908	3793	3808
15°	3859	3707	3714
20°	3809	3613	3624
25°	3750	3517	3532
30°	3686	3415	3426
35°	3606	3304	3323
40°	3523	3188	3201
45°	3433	3062	3071
50°	3321	2917	2930
55°	3198	2759	2775
60°	3052	2558	2595
65°	2831	2333	2415
70°	2526	2071	2206
75°	2105	1785	2017
80°	1509	1504	1844
85°	726	1218	1678

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 3433 cd/sqm

TEST NUMBER: P517914

CATALOG NUMBER: HVL8-2-LD4-1STD-50-UNV-O-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	46.5	3.1
10°-20°	133.5	9.0
20°-30°	202.6	13.6
30°-40°	244.9	16.5
40°-50°	255.6	17.2
50°-60°	233.7	15.7
60°-70°	182.2	12.3
70°-80°	113.9	7.7
80°-90°	51.7	3.5
90°-100°	17.3	1.2
100°-110°	4.3	0.3
110°-120°	0.7	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°	382.6	25.7
0°-40°	627.5	42.2
0°-60°	1116.8	75.1
0°-90°	1464.6	98.5
90°-120°	22.4	1.5
90°-150°	22.4	1.5
90°-180°	22.0	1.5
0°-180°	1487.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	492	492	492	492	492	
5°	491	490	488	490	490	47
15°	472	473	472	474	474	133
25°	437	438	438	442	443	202
35°	387	389	391	394	396	242
45°	326	329	331	335	336	251
55°	254	257	262	266	268	227
65°	175	178	184	191	194	173
75°	88	94	108	120	125	94
85°	15	28	49	64	70	19
90°	0	11	29	43	48	1
95°	0	3	15	27	31	0
105°	0	0	2	7	10	0
115°	0	0	0	1	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: P517914

CATALOG NUMBER: HVL8-2-LD4-1STD-50-UNV-O-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	491.8	491.8	491.8	491.8	491.8
2.5°	492.4	491.7	489.5	491.7	491.6
5°	490.8	489.8	487.6	490.0	490.0
7.5°	487.5	487.2	485.2	487.9	487.9
10°	483.7	483.6	482.0	484.9	485.0
12.5°	478.4	478.8	477.3	480.1	480.4
15°	472.1	472.9	471.6	474.3	474.2
17.5°	465.3	465.7	464.8	467.8	467.7
20°	456.8	457.4	456.7	459.8	460.2
22.5°	447.4	448.2	448.1	451.3	452.3
25°	437.4	437.8	438.2	442.0	442.7
27.5°	426.4	427.0	427.8	431.2	431.9
30°	414.4	415.3	416.2	419.7	420.6
32.5°	401.6	402.5	403.7	408.2	408.7
35°	387.2	389.0	390.6	394.5	396.2
37.5°	372.9	375.1	376.6	380.7	382.0
40°	357.7	359.9	362.3	366.7	367.5
42.5°	341.8	344.3	347.2	351.2	352.6
45°	325.8	328.7	331.4	334.6	336.2
47.5°	308.5	311.4	314.7	318.4	319.4
50°	290.7	294.0	297.5	301.0	302.8
52.5°	272.3	276.4	280.3	284.0	285.8
55°	254.3	257.3	262.0	265.8	267.6
57.5°	235.5	238.0	242.3	248.6	249.5
60°	216.3	218.7	223.1	228.2	230.3
62.5°	195.2	198.4	203.0	209.5	211.4
65°	174.7	177.7	183.9	191.2	194.2
67.5°	154.9	155.9	163.8	171.5	176.3
70°	131.5	135.4	144.6	154.0	157.7
72.5°	111.3	115.2	125.3	136.3	141.0
75°	88.5	93.9	107.6	120.5	125.0
77.5°	68.4	74.4	91.4	104.3	109.6
80°	47.8	57.2	75.6	90.2	95.9
82.5°	30.0	41.6	61.3	76.6	81.6
85°	15.3	28.3	48.6	64.2	69.9
87.5°	4.1	18.3	37.8	52.8	58.5
90°	0.1	10.6	28.6	43.0	48.2
92.5°	0.1	5.9	21.3	34.2	39.5
95°	0.1	2.8	14.8	26.9	31.1
97.5°	0.1	1.2	10.2	20.3	24.5
100°	0.1	0.6	6.5	14.7	18.3
102.5°	0.2	0.3	4.1	10.6	13.4
105°	0.2	0.3	2.4	7.2	9.6
107.5°	0.2	0.3	1.4	4.9	6.6
110°	0.3	0.3	0.8	3.0	4.4

TEST NUMBER: P517914

CATALOG NUMBER: HVL8-2-LD4-1STD-50-UNV-O-EDD

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.3	0.3	0.5	2.0	2.9
115°	0.3	0.3	0.5	1.3	1.9
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)