

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: P517994

Luminaire Tested: HVL8-2-LD4-3LO-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: P517994
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-2-LD4-3LO-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: 3457.0 lumens
Efficiency: N/A
Efficacy: 102.6 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

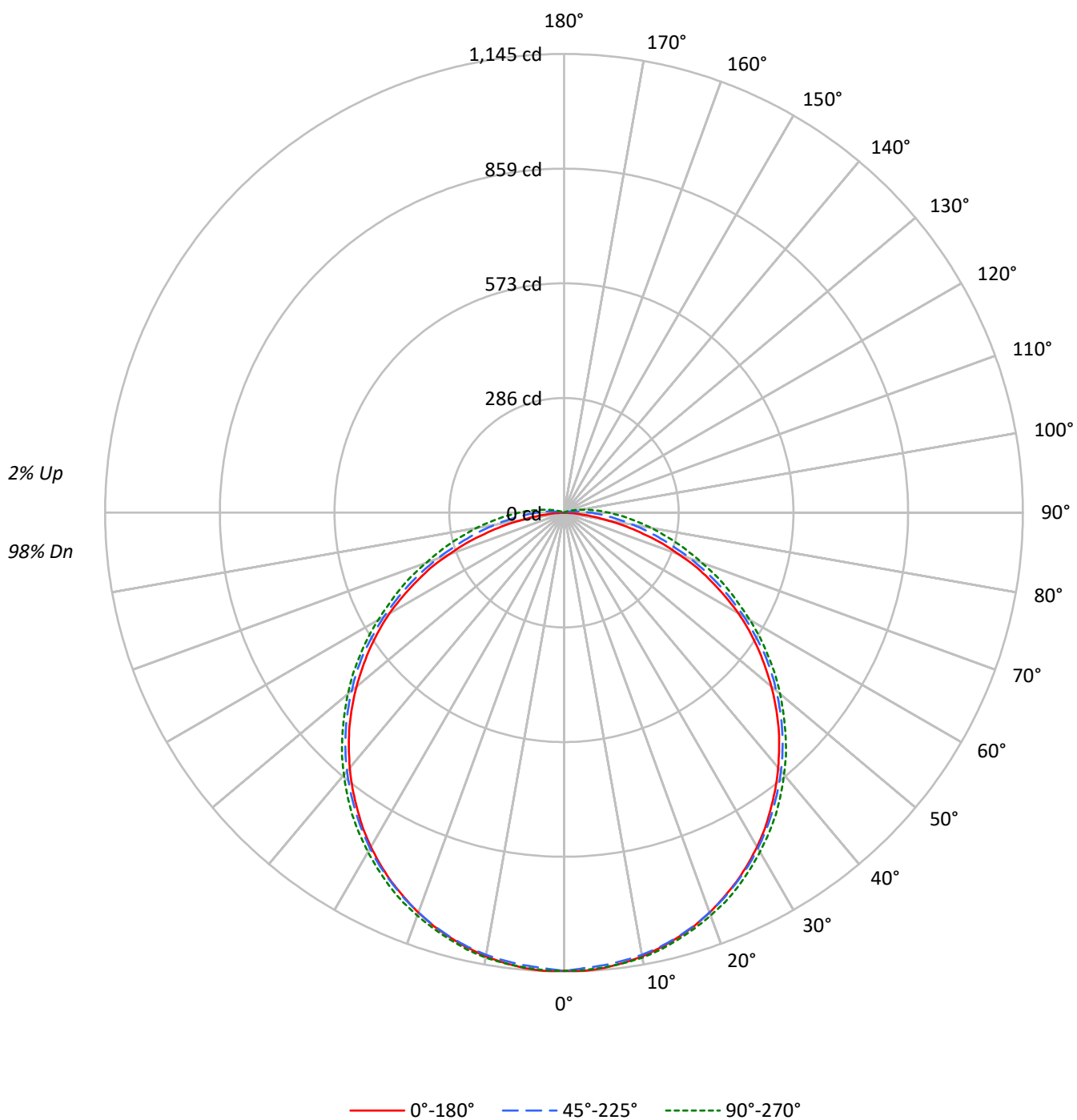
Input Watts (W): 33.7
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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: P517994

CATALOG NUMBER: HVL8-2-LD4-3LO-50-UNV-O-EDD

Luminous Intensity Polar Plot



TEST NUMBER: P517994

CATALOG NUMBER: HVL8-2-LD4-3LO-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°	9231	9231	9231
5°	9179	9002	9033
10°	9085	8819	8852
15°	8972	8620	8635
20°	8855	8400	8424
25°	8720	8176	8209
30°	8567	7939	7966
35°	8382	7682	7724
40°	8190	7411	7443
45°	7982	7117	7139
50°	7719	6781	6812
55°	7435	6414	6452
60°	7097	5946	6031
65°	6583	5424	5614
70°	5871	4815	5129
75°	4894	4150	4689
80°	3504	3495	4285
85°	1689	2830	3901

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 7982 cd/sqm

TEST NUMBER: P517994

CATALOG NUMBER: HVL8-2-LD4-3LO-50-UNV-O-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	108.2	3.1
10°-20°	310.4	9.0
20°-30°	470.9	13.6
30°-40°	569.4	16.5
40°-50°	594.1	17.2
50°-60°	543.2	15.7
60°-70°	423.5	12.2
70°-80°	264.9	7.7
80°-90°	120.3	3.5
90°-100°	40.3	1.2
100°-110°	10.1	0.3
110°-120°	1.6	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°	889.5	25.7
0°-40°	1458.9	42.2
0°-60°	2596.2	75.1
0°-90°	3404.9	98.5
90°-120°	52.0	1.5
90°-150°	52.0	1.5
90°-180°	52.0	1.5
0°-180°	3457.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1143	1143	1143	1143	1143	
5°	1141	1139	1134	1139	1139	108
15°	1098	1099	1096	1103	1102	310
25°	1017	1018	1019	1028	1029	469
35°	900	904	908	917	921	563
45°	757	764	770	778	782	584
55°	591	598	609	618	622	528
65°	406	413	428	444	452	402
75°	206	218	250	280	291	219
85°	36	66	113	149	162	45
90°	0	24	67	100	112	1
95°	0	6	34	62	72	0
105°	0	1	6	17	22	1
115°	1	1	1	3	4	1
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: P517994

CATALOG NUMBER: HVL8-2-LD4-3LO-50-UNV-O-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1143.4	1143.4	1143.4	1143.4	1143.4
2.5°	1144.7	1143.1	1138.0	1143.1	1142.8
5°	1140.9	1138.8	1133.7	1139.1	1139.1
7.5°	1133.4	1132.6	1128.0	1134.2	1134.2
10°	1124.5	1124.2	1120.5	1127.2	1127.5
12.5°	1112.1	1113.2	1109.7	1116.1	1117.0
15°	1097.5	1099.4	1096.5	1102.7	1102.4
17.5°	1081.6	1082.7	1080.6	1087.6	1087.3
20°	1062.0	1063.3	1061.7	1069.0	1069.8
22.5°	1040.1	1042.0	1041.8	1049.3	1051.5
25°	1017.0	1017.8	1018.8	1027.5	1029.1
27.5°	991.3	992.7	994.6	1002.4	1004.0
30°	963.3	965.5	967.6	975.7	977.9
32.5°	933.7	935.8	938.5	949.0	950.1
35°	900.2	904.3	908.1	917.2	921.0
37.5°	866.8	871.9	875.4	885.2	888.1
40°	831.5	836.6	842.3	852.5	854.4
42.5°	794.6	800.5	807.3	816.4	819.7
45°	757.4	764.1	770.3	777.9	781.7
47.5°	717.2	724.0	731.5	740.1	742.6
50°	675.7	683.5	691.6	699.7	704.0
52.5°	633.1	642.6	651.7	660.4	664.4
55°	591.1	598.1	609.1	618.0	622.1
57.5°	547.4	553.4	563.3	577.9	580.0
60°	503.0	508.3	518.6	530.4	535.3
62.5°	453.9	461.2	472.0	487.0	491.4
65°	406.2	413.2	427.5	444.5	451.5
67.5°	360.1	362.5	380.9	398.6	410.0
70°	305.7	314.8	336.1	357.9	366.6
72.5°	258.8	267.9	291.4	317.0	327.8
75°	205.7	218.3	250.1	280.0	290.6
77.5°	159.0	173.0	212.4	242.6	254.7
80°	111.0	132.9	175.7	209.7	222.9
82.5°	69.8	96.8	142.6	178.2	189.8
85°	35.6	65.8	112.9	149.3	162.5
87.5°	9.4	42.6	87.9	122.6	136.1
90°	0.3	24.5	66.6	100.0	112.1
92.5°	0.3	13.7	49.6	79.5	91.9
95°	0.3	6.5	34.5	62.5	72.2
97.5°	0.3	2.7	23.7	47.2	56.9
100°	0.3	1.3	15.1	34.2	42.6
102.5°	0.5	0.8	9.4	24.5	31.3
105°	0.5	0.8	5.7	16.7	22.4
107.5°	0.5	0.8	3.2	11.3	15.4
110°	0.8	0.8	1.9	7.0	10.2

TEST NUMBER: P517994

CATALOG NUMBER: HVL8-2-LD4-3LO-50-UNV-O-EDD

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.8	0.8	1.1	4.6	6.7
115°	0.8	0.8	1.1	3.0	4.3
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)