

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: P517830

Luminaire Tested: HVL8-1-LD4-3HI-40-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: P517830
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-1-LD4-3HI-40-UNV-O-EDD
Description: 1 FOOT, 8 INCH WIDE, HVL LED LUMINAIRE, WITH 4000K, 80 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3239.0 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

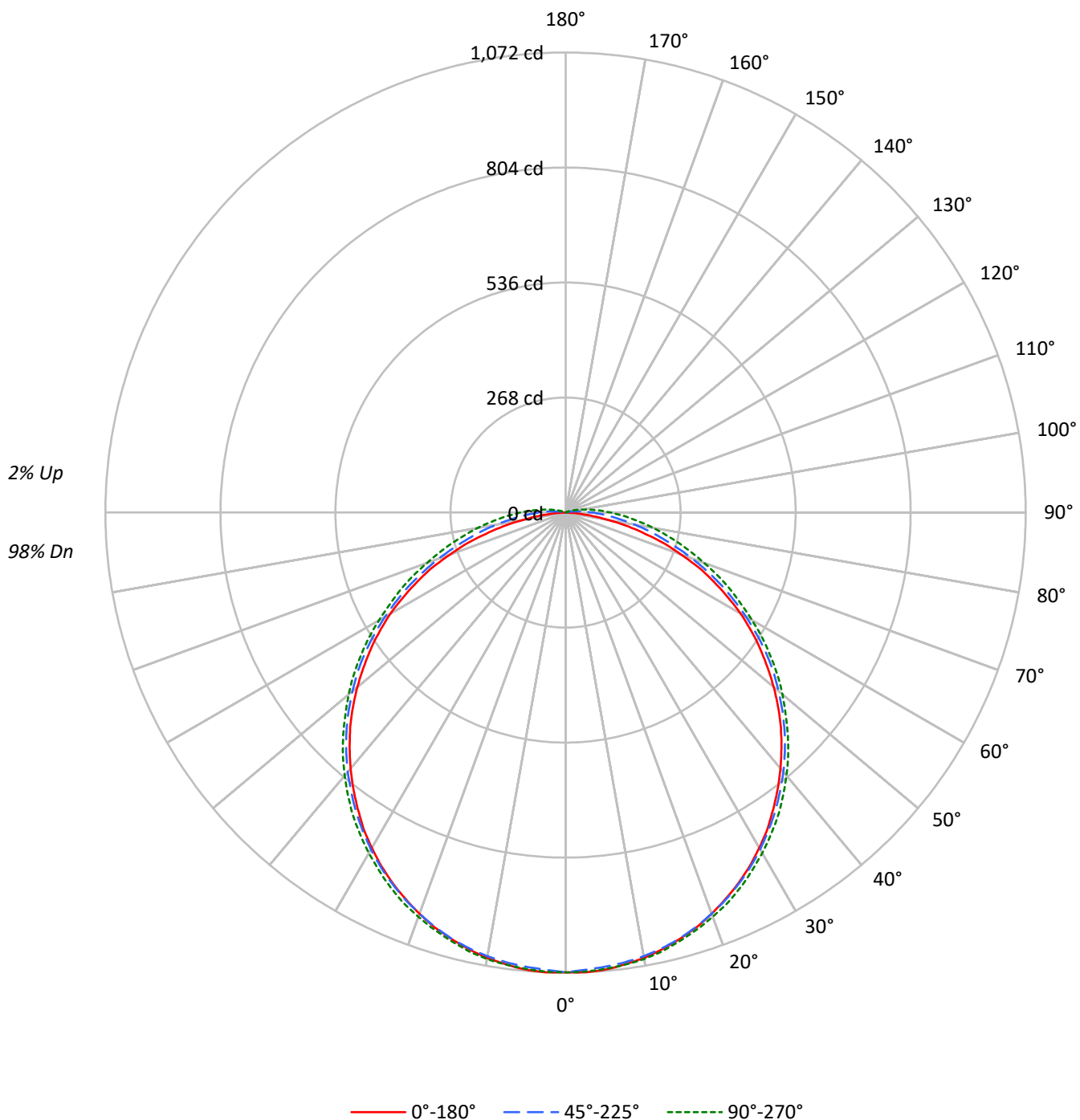
Input Watts (W): 31.5
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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: P517830

CATALOG NUMBER: HVL8-1-LD4-3HI-40-UNV-O-EDD

Luminous Intensity Polar Plot



TEST NUMBER: P517830

CATALOG NUMBER: HVL8-1-LD4-3HI-40-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°	17297	17297	17297
5°	17077	16783	16926
10°	16780	16361	16588
15°	16454	15915	16181
20°	16118	15435	15785
25°	15750	14952	15384
30°	15350	14445	14926
35°	14888	13901	14474
40°	14406	13336	13946
45°	13888	12730	13378
50°	13267	12046	12764
55°	12591	11306	12091
60°	11807	10388	11300
65°	10711	9376	10520
70°	9273	8215	9612
75°	7411	6964	8784
80°	4971	5733	8029
85°	2123	4487	7313

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 13888 cd/sqm

TEST NUMBER: P517830

CATALOG NUMBER: HVL8-1-LD4-3HI-40-UNV-O-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	101.4	3.1
10°-20°	290.8	9.0
20°-30°	441.2	13.6
30°-40°	533.5	16.5
40°-50°	556.7	17.2
50°-60°	509.0	15.7
60°-70°	396.8	12.2
70°-80°	248.2	7.7
80°-90°	112.7	3.5
90°-100°	37.8	1.2
100°-110°	9.5	0.3
110°-120°	1.5	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°	833.4	25.7
0°-40°	1366.9	42.2
0°-60°	2432.5	75.1
0°-90°	3190.2	98.5
90°-120°	48.8	1.5
90°-150°	48.8	1.5
90°-180°	49.0	1.5
0°-180°	3239.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1071	1071	1071	1071	1071	
5°	1069	1067	1062	1067	1067	102
15°	1028	1030	1027	1033	1033	290
25°	953	954	955	963	964	439
35°	844	847	851	859	863	528
45°	710	716	722	729	732	547
55°	554	560	571	579	583	495
65°	381	387	400	416	423	377
75°	193	205	234	262	272	205
85°	33	62	106	140	152	42
90°	0	23	62	94	105	1
95°	0	6	32	59	68	0
105°	0	1	5	16	21	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: P517830

CATALOG NUMBER: HVL8-1-LD4-3HI-40-UNV-O-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1071.3	1071.3	1071.3	1071.3	1071.3
2.5°	1072.5	1071.0	1066.2	1071.0	1070.8
5°	1069.0	1067.0	1062.2	1067.2	1067.2
7.5°	1061.9	1061.2	1056.9	1062.7	1062.7
10°	1053.6	1053.3	1049.8	1056.1	1056.4
12.5°	1042.0	1043.0	1039.7	1045.8	1046.5
15°	1028.3	1030.1	1027.3	1033.1	1032.9
17.5°	1013.4	1014.4	1012.4	1019.0	1018.7
20°	995.0	996.3	994.7	1001.6	1002.3
22.5°	974.5	976.3	976.1	983.1	985.2
25°	952.8	953.6	954.6	962.7	964.2
27.5°	928.8	930.1	931.9	939.2	940.7
30°	902.6	904.6	906.6	914.2	916.2
32.5°	874.8	876.8	879.3	889.2	890.2
35°	843.5	847.3	850.8	859.4	862.9
37.5°	812.2	817.0	820.2	829.3	832.1
40°	779.1	783.9	789.2	798.8	800.5
42.5°	744.5	750.0	756.4	764.9	768.0
45°	709.6	715.9	721.8	728.8	732.4
47.5°	672.0	678.3	685.4	693.5	695.7
50°	633.1	640.4	648.0	655.6	659.6
52.5°	593.2	602.1	610.6	618.7	622.5
55°	553.8	560.4	570.7	579.1	582.9
57.5°	512.9	518.5	527.8	541.4	543.5
60°	471.2	476.3	485.9	497.0	501.5
62.5°	425.3	432.1	442.2	456.3	460.4
65°	380.6	387.1	400.5	416.4	423.0
67.5°	337.4	339.7	356.8	373.5	384.1
70°	286.4	295.0	314.9	335.4	343.5
72.5°	242.4	251.0	273.0	297.0	307.1
75°	192.7	204.6	234.4	262.4	272.2
77.5°	149.0	162.1	199.0	227.3	238.6
80°	104.0	124.5	164.7	196.5	208.8
82.5°	65.4	90.7	133.6	166.9	177.8
85°	33.3	61.6	105.8	139.9	152.3
87.5°	8.8	39.9	82.3	114.9	127.5
90°	0.3	23.0	62.4	93.7	105.1
92.5°	0.3	12.9	46.5	74.5	86.1
95°	0.3	6.1	32.3	58.6	67.7
97.5°	0.3	2.5	22.2	44.2	53.3
100°	0.3	1.3	14.1	32.1	39.9
102.5°	0.5	0.8	8.8	23.0	29.3
105°	0.5	0.8	5.3	15.7	21.0
107.5°	0.5	0.8	3.0	10.6	14.4
110°	0.8	0.8	1.8	6.6	9.6

TEST NUMBER: P517830

CATALOG NUMBER: HVL8-1-LD4-3HI-40-UNV-O-EDD

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.8	0.8	1.0	4.3	6.3
115°	0.8	0.8	1.0	2.8	4.0
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)