

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: P517797

Luminaire Tested: HVL8-1-LD4-2LO-40-UNV-O-EDD-90

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: P517797
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-1-LD4-2LO-40-UNV-O-EDD-90
Description: 1 FOOT, 8 INCH WIDE, HVL LED LUMINAIRE, WITH 4000K, 90 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1040.9 lumens
Efficiency: N/A
Efficacy: 90.5 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

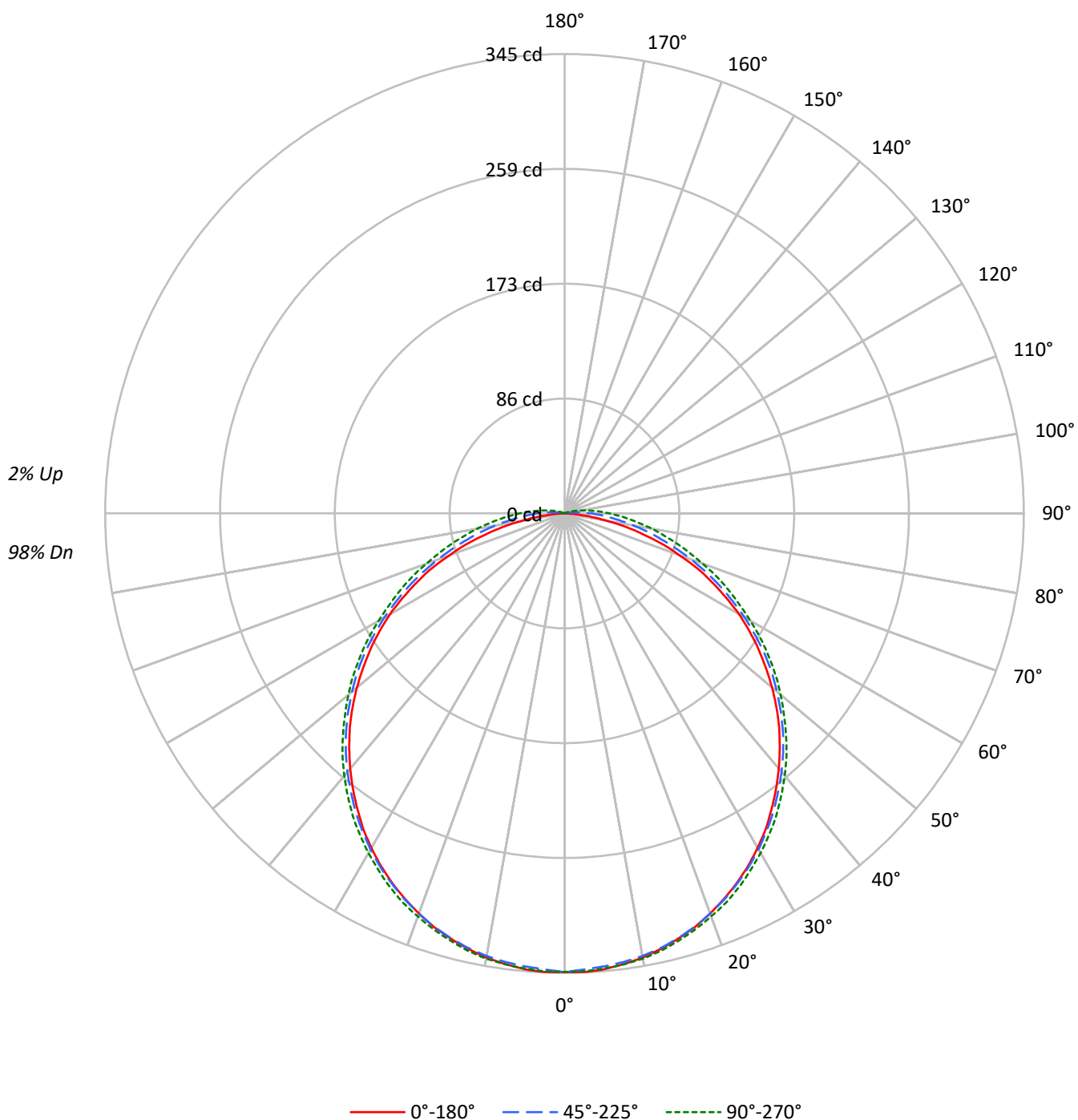
Input Watts (W): 11.5
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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: P517797

CATALOG NUMBER: HVL8-1-LD4-2LO-40-UNV-O-EDD-90

Luminous Intensity Polar Plot



TEST NUMBER: P517797

CATALOG NUMBER: HVL8-1-LD4-2LO-40-UNV-O-EDD-90

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°	5559	5559	5559
5°	5489	5394	5440
10°	5393	5258	5331
15°	5288	5116	5201
20°	5181	4961	5073
25°	5062	4805	4944
30°	4934	4643	4798
35°	4785	4467	4651
40°	4630	4285	4483
45°	4464	4092	4300
50°	4264	3872	4103
55°	4047	3633	3885
60°	3796	3339	3632
65°	3442	3013	3382
70°	2979	2640	3089
75°	2381	2237	2824
80°	1596	1841	2580
85°	682	1442	2348

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 4464 cd/sqm

TEST NUMBER: P517797

CATALOG NUMBER: HVL8-1-LD4-2LO-40-UNV-O-EDD-90

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	32.6	3.1
10°-20°	93.5	9.0
20°-30°	141.8	13.6
30°-40°	171.5	16.5
40°-50°	178.9	17.2
50°-60°	163.6	15.7
60°-70°	127.5	12.3
70°-80°	79.8	7.7
80°-90°	36.2	3.5
90°-100°	12.1	1.2
100°-110°	3.0	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°	267.8	25.7
0°-40°	439.3	42.2
0°-60°	781.8	75.1
0°-90°	1025.3	98.5
90°-120°	15.6	1.5
90°-150°	15.6	1.5
90°-180°	16.0	1.5
0°-180°	1040.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	344	344	344	344	344	
5°	344	343	341	343	343	33
15°	330	331	330	332	332	93
25°	306	306	307	309	310	141
35°	271	272	273	276	277	170
45°	228	230	232	234	235	176
55°	178	180	183	186	187	159
65°	122	124	129	134	136	121
75°	62	66	75	84	88	66
85°	11	20	34	45	49	14
90°	0	7	20	30	34	0
95°	0	2	10	19	22	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: P517797

CATALOG NUMBER: HVL8-1-LD4-2LO-40-UNV-O-EDD-90

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	344.3	344.3	344.3	344.3	344.3
2.5°	344.7	344.2	342.7	344.2	344.1
5°	343.6	342.9	341.4	343.0	343.0
7.5°	341.3	341.1	339.7	341.5	341.5
10°	338.6	338.5	337.4	339.4	339.5
12.5°	334.9	335.2	334.2	336.1	336.3
15°	330.5	331.1	330.2	332.0	332.0
17.5°	325.7	326.0	325.4	327.5	327.4
20°	319.8	320.2	319.7	321.9	322.1
22.5°	313.2	313.8	313.7	316.0	316.6
25°	306.2	306.5	306.8	309.4	309.9
27.5°	298.5	298.9	299.5	301.9	302.3
30°	290.1	290.7	291.4	293.8	294.5
32.5°	281.2	281.8	282.6	285.8	286.1
35°	271.1	272.3	273.4	276.2	277.3
37.5°	261.0	262.6	263.6	266.5	267.4
40°	250.4	251.9	253.6	256.7	257.3
42.5°	239.3	241.1	243.1	245.8	246.8
45°	228.1	230.1	232.0	234.2	235.4
47.5°	216.0	218.0	220.3	222.9	223.6
50°	203.5	205.8	208.3	210.7	212.0
52.5°	190.7	193.5	196.3	198.9	200.1
55°	178.0	180.1	183.4	186.1	187.3
57.5°	164.8	166.6	169.6	174.0	174.7
60°	151.5	153.1	156.2	159.7	161.2
62.5°	136.7	138.9	142.1	146.7	148.0
65°	122.3	124.4	128.7	133.8	136.0
67.5°	108.4	109.2	114.7	120.0	123.5
70°	92.0	94.8	101.2	107.8	110.4
72.5°	77.9	80.7	87.7	95.4	98.7
75°	61.9	65.7	75.3	84.3	87.5
77.5°	47.9	52.1	64.0	73.0	76.7
80°	33.4	40.0	52.9	63.1	67.1
82.5°	21.0	29.1	42.9	53.6	57.1
85°	10.7	19.8	34.0	45.0	48.9
87.5°	2.8	12.8	26.5	36.9	41.0
90°	0.1	7.4	20.0	30.1	33.8
92.5°	0.1	4.1	14.9	23.9	27.7
95°	0.1	1.9	10.4	18.8	21.8
97.5°	0.1	0.8	7.1	14.2	17.1
100°	0.1	0.4	4.5	10.3	12.8
102.5°	0.2	0.2	2.8	7.4	9.4
105°	0.2	0.2	1.7	5.0	6.7
107.5°	0.2	0.2	1.0	3.4	4.6
110°	0.2	0.2	0.6	2.1	3.1

TEST NUMBER: P517797

CATALOG NUMBER: HVL8-1-LD4-2LO-40-UNV-O-EDD-90

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.2	0.2	0.3	1.4	2.0
115°	0.2	0.2	0.3	0.9	1.3
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)