

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: P517770

Luminaire Tested: HVL8-1-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: P517770
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-1-LD4-1STD-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: 855.1 lumens
Efficiency: N/A
Efficacy: 104.3 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

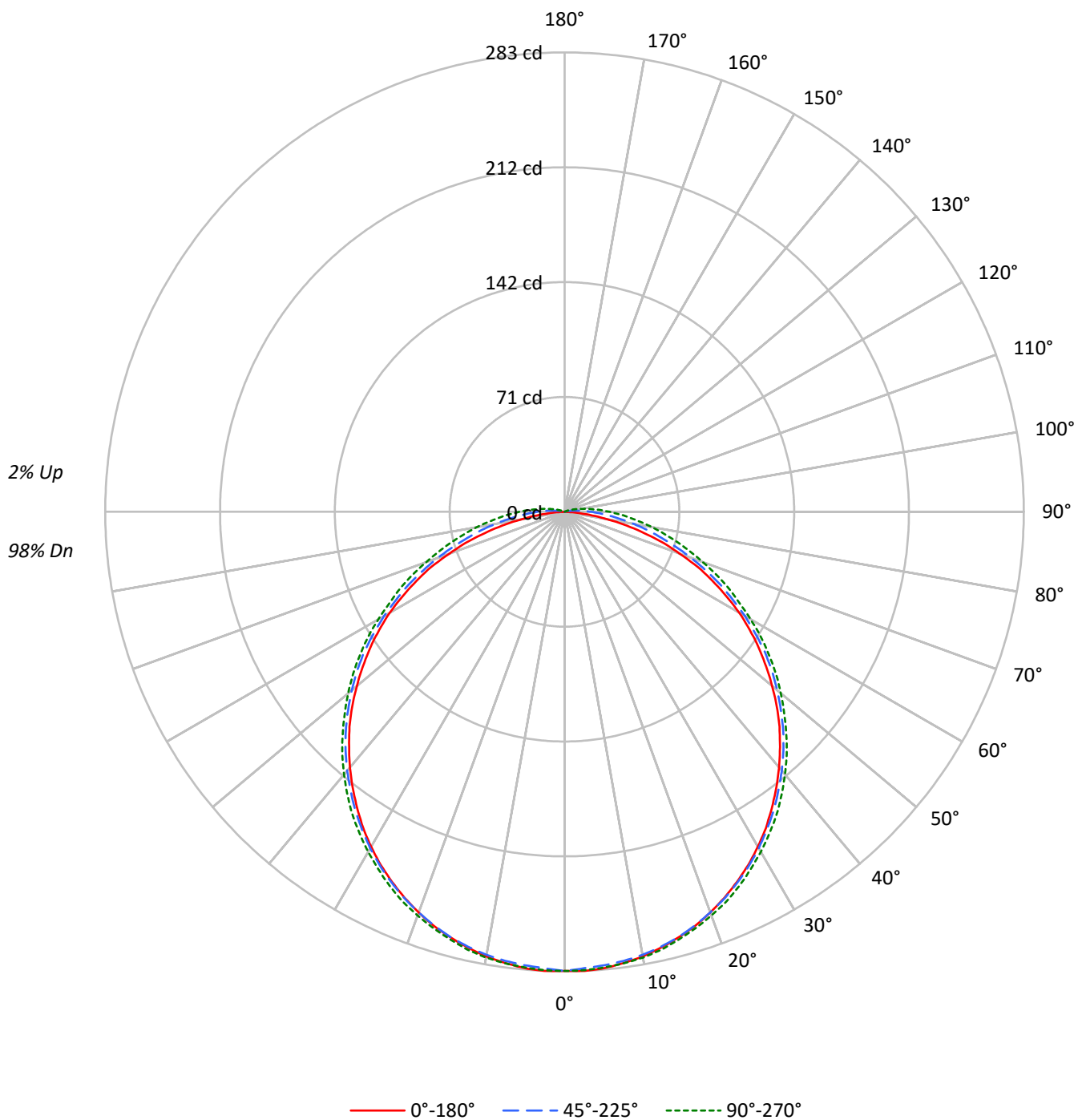
Input Watts (W): 8.2
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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: P517770

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

Luminous Intensity Polar Plot



TEST NUMBER: P517770

CATALOG NUMBER: HVL8-1-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°	4566	4566	4566
5°	4508	4430	4468
10°	4429	4319	4378
15°	4343	4201	4271
20°	4256	4075	4167
25°	4157	3947	4060
30°	4053	3813	3941
35°	3931	3670	3821
40°	3804	3520	3681
45°	3666	3360	3531
50°	3502	3181	3369
55°	3324	2986	3192
60°	3117	2743	2983
65°	2828	2474	2778
70°	2448	2168	2538
75°	1957	1839	2320
80°	1314	1514	2119
85°	561	1183	1930

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 3666 cd/sqm

TEST NUMBER: P517770

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

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	26.8	3.1
10°-20°	76.8	9.0
20°-30°	116.5	13.6
30°-40°	140.8	16.5
40°-50°	147.0	17.2
50°-60°	134.4	15.7
60°-70°	104.7	12.3
70°-80°	65.5	7.7
80°-90°	29.8	3.5
90°-100°	10.0	1.2
100°-110°	2.5	0.3
110°-120°	0.4	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°	220.0	25.7
0°-40°	360.8	42.2
0°-60°	642.1	75.1
0°-90°	842.2	98.5
90°-120°	12.9	1.5
90°-150°	12.9	1.5
90°-180°	13.0	1.5
0°-180°	855.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	283	283	283	283	283	
5°	282	282	280	282	282	27
15°	271	272	271	273	273	77
25°	252	252	252	254	254	116
35°	223	224	225	227	228	139
45°	187	189	190	192	193	144
55°	146	148	151	153	154	131
65°	100	102	106	110	112	99
75°	51	54	62	69	72	54
85°	9	16	28	37	40	11
90°	0	6	16	25	28	0
95°	0	2	8	16	18	0
105°	0	0	1	4	6	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: P517770

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

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	282.8	282.8	282.8	282.8	282.8
2.5°	283.1	282.7	281.4	282.7	282.6
5°	282.2	281.6	280.4	281.7	281.7
7.5°	280.3	280.1	279.0	280.5	280.5
10°	278.1	278.0	277.1	278.8	278.8
12.5°	275.0	275.3	274.4	276.0	276.2
15°	271.4	271.9	271.2	272.7	272.6
17.5°	267.5	267.8	267.2	269.0	268.9
20°	262.7	263.0	262.6	264.4	264.6
22.5°	257.3	257.7	257.7	259.5	260.1
25°	251.5	251.7	252.0	254.1	254.5
27.5°	245.2	245.5	246.0	247.9	248.3
30°	238.3	238.8	239.3	241.3	241.9
32.5°	230.9	231.5	232.1	234.7	235.0
35°	222.7	223.7	224.6	226.9	227.8
37.5°	214.4	215.7	216.5	218.9	219.7
40°	205.7	206.9	208.3	210.9	211.3
42.5°	196.5	198.0	199.7	201.9	202.7
45°	187.3	189.0	190.5	192.4	193.3
47.5°	177.4	179.1	180.9	183.1	183.7
50°	167.1	169.1	171.1	173.1	174.1
52.5°	156.6	158.9	161.2	163.3	164.3
55°	146.2	147.9	150.7	152.9	153.9
57.5°	135.4	136.9	139.3	142.9	143.5
60°	124.4	125.7	128.3	131.2	132.4
62.5°	112.3	114.1	116.7	120.5	121.5
65°	100.5	102.2	105.7	109.9	111.7
67.5°	89.1	89.7	94.2	98.6	101.4
70°	75.6	77.9	83.1	88.5	90.7
72.5°	64.0	66.3	72.1	78.4	81.1
75°	50.9	54.0	61.9	69.3	71.9
77.5°	39.3	42.8	52.5	60.0	63.0
80°	27.5	32.9	43.5	51.9	55.1
82.5°	17.3	23.9	35.3	44.1	46.9
85°	8.8	16.3	27.9	36.9	40.2
87.5°	2.3	10.5	21.7	30.3	33.7
90°	0.1	6.1	16.5	24.7	27.7
92.5°	0.1	3.4	12.3	19.7	22.7
95°	0.1	1.6	8.5	15.5	17.9
97.5°	0.1	0.7	5.9	11.7	14.1
100°	0.1	0.3	3.7	8.5	10.5
102.5°	0.1	0.2	2.3	6.1	7.7
105°	0.1	0.2	1.4	4.1	5.5
107.5°	0.1	0.2	0.8	2.8	3.8
110°	0.2	0.2	0.5	1.7	2.5

TEST NUMBER: P517770

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

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.2	0.2	0.3	1.1	1.7
115°	0.2	0.2	0.3	0.7	1.1
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)