

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: P517801

Luminaire Tested: HVL8-1-LD4-2LO-50-UNV-O-EDD-90

Issue Date: 4/27/2021

Tested By:

Approved By:



NVLAP Lab Code: 200050-0

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Test Information

Test Method: LM-79-2019
Report Number: P517801
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-1-LD4-2LO-50-UNV-O-EDD-90
Description: 1 FOOT, 8 INCH WIDE, HVL LED LUMINAIRE, WITH 5000K, 90 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1096.0 lumens
Efficiency: N/A
Efficacy: 95.3 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

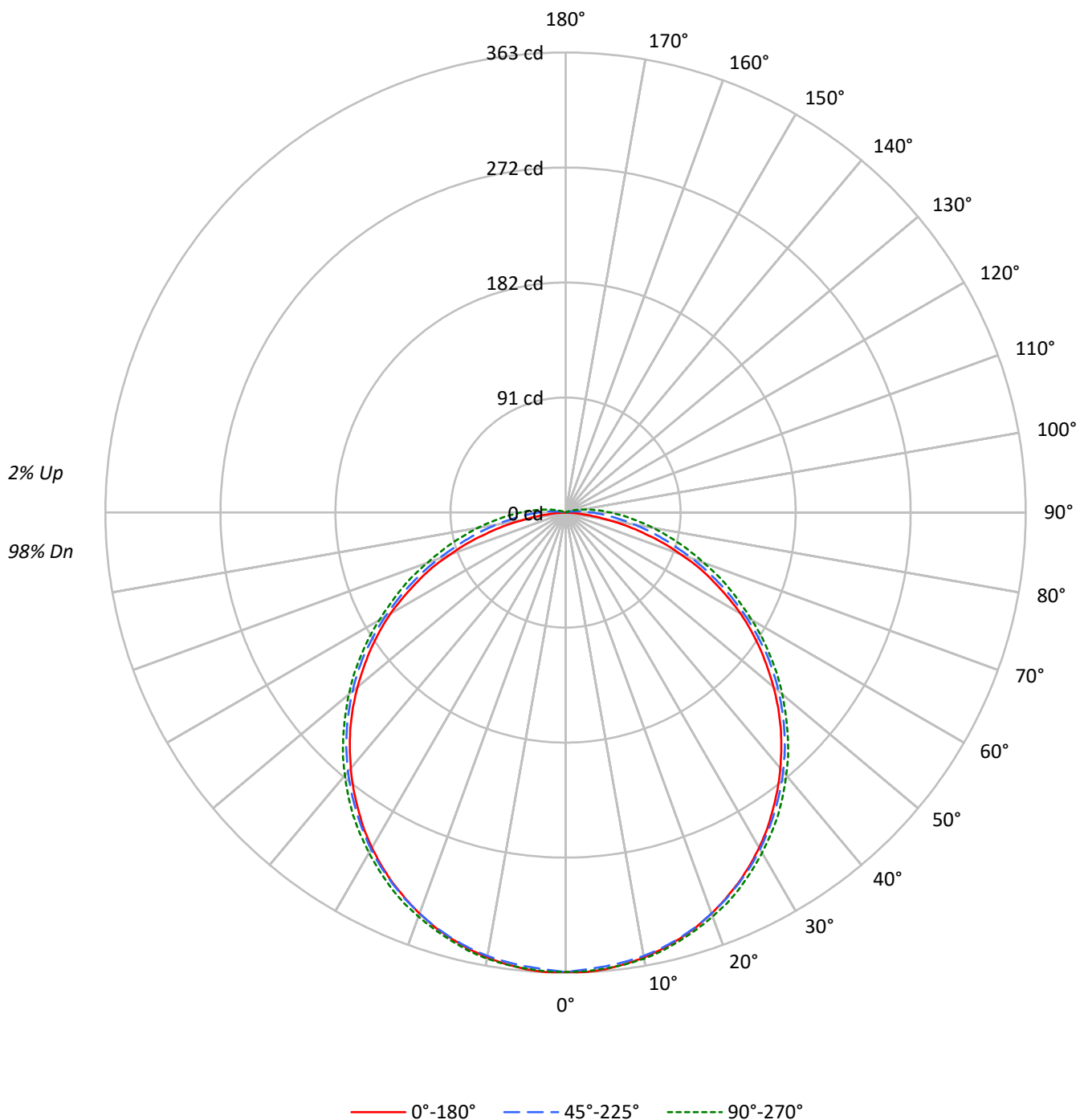
Input Watts (W): 11.5
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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: P517801

CATALOG NUMBER: HVL8-1-LD4-2LO-50-UNV-O-EDD-90

Luminous Intensity Polar Plot



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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
RCR																	
0	119	119	119	119	116	116	116	116	110	110	110		105	105	105		101
1	108	102	98	94	105	100	96	92	95	92	89		91	88	86		87
2	98	89	82	76	95	87	80	75	83	77	73		79	75	71		76
3	89	78	69	63	86	76	68	62	73	66	61		70	64	59		67
4	81	69	60	53	79	67	59	52	65	57	52		62	56	51		60
5	75	61	52	45	72	60	52	45	58	50	44		56	49	44		54
6	69	55	46	40	67	54	46	39	52	45	39		50	44	38		49
7	64	50	41	35	62	49	41	35	47	40	34		46	39	34		44
8	59	46	37	31	58	45	37	31	43	36	31		42	35	30		41
9	55	42	34	28	54	41	33	28	40	33	28		39	32	27		38
10	52	39	31	25	51	38	30	25	37	30	25		36	29	25		35

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5853	5853	5853
5°	5778	5679	5727
10°	5678	5536	5612
15°	5568	5385	5475
20°	5454	5223	5342
25°	5329	5059	5206
30°	5194	4888	5050
35°	5037	4704	4898
40°	4874	4512	4720
45°	4699	4307	4526
50°	4489	4077	4319
55°	4261	3826	4090
60°	3997	3515	3824
65°	3625	3172	3559
70°	3137	2781	3252
75°	2507	2356	2972
80°	1682	1939	2719
85°	721	1518	2473

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 4699 cd/sqm

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CATALOG NUMBER: HVL8-1-LD4-2LO-50-UNV-O-EDD-90

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	34.3	3.1
10°-20°	98.4	9.0
20°-30°	149.3	13.6
30°-40°	180.5	16.5
40°-50°	188.4	17.2
50°-60°	172.2	15.7
60°-70°	134.3	12.2
70°-80°	84.0	7.7
80°-90°	38.2	3.5
90°-100°	12.8	1.2
100°-110°	3.2	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°	282.0	25.7
0°-40°	462.5	42.2
0°-60°	823.1	75.1
0°-90°	1079.5	98.5
90°-120°	16.5	1.5
90°-150°	16.5	1.5
90°-180°	17.0	1.6
0°-180°	1096.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	362	362	362	362	362	
5°	362	361	359	361	361	34
15°	348	349	348	350	350	98
25°	322	323	323	326	326	149
35°	285	287	288	291	292	179
45°	240	242	244	247	248	185
55°	187	190	193	196	197	167
65°	129	131	136	141	143	127
75°	65	69	79	89	92	69
85°	11	21	36	47	52	14
90°	0	8	21	32	36	0
95°	0	2	11	20	23	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: P517801

CATALOG NUMBER: HVL8-1-LD4-2LO-50-UNV-O-EDD-90

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	362.5	362.5	362.5	362.5	362.5
2.5°	362.9	362.4	360.8	362.4	362.3
5°	361.7	361.0	359.4	361.1	361.1
7.5°	359.3	359.1	357.6	359.6	359.6
10°	356.5	356.4	355.2	357.4	357.4
12.5°	352.6	352.9	351.8	353.9	354.1
15°	348.0	348.6	347.6	349.6	349.5
17.5°	342.9	343.3	342.6	344.8	344.7
20°	336.7	337.1	336.6	338.9	339.2
22.5°	329.8	330.4	330.3	332.7	333.4
25°	322.4	322.7	323.0	325.7	326.3
27.5°	314.3	314.7	315.3	317.8	318.3
30°	305.4	306.1	306.8	309.3	310.0
32.5°	296.0	296.7	297.5	300.9	301.2
35°	285.4	286.7	287.9	290.8	292.0
37.5°	274.8	276.4	277.6	280.6	281.6
40°	263.6	265.2	267.0	270.3	270.9
42.5°	251.9	253.8	255.9	258.8	259.9
45°	240.1	242.3	244.2	246.6	247.8
47.5°	227.4	229.5	231.9	234.7	235.4
50°	214.2	216.7	219.3	221.8	223.2
52.5°	200.7	203.7	206.6	209.4	210.6
55°	187.4	189.6	193.1	195.9	197.2
57.5°	173.6	175.4	178.6	183.2	183.9
60°	159.5	161.2	164.4	168.2	169.7
62.5°	143.9	146.2	149.6	154.4	155.8
65°	128.8	131.0	135.5	140.9	143.1
67.5°	114.2	114.9	120.7	126.4	130.0
70°	96.9	99.8	106.6	113.5	116.2
72.5°	82.0	84.9	92.4	100.5	103.9
75°	65.2	69.2	79.3	88.8	92.1
77.5°	50.4	54.9	67.3	76.9	80.8
80°	35.2	42.1	55.7	66.5	70.7
82.5°	22.1	30.7	45.2	56.5	60.2
85°	11.3	20.9	35.8	47.3	51.5
87.5°	3.0	13.5	27.9	38.9	43.2
90°	0.1	7.8	21.1	31.7	35.5
92.5°	0.1	4.4	15.7	25.2	29.1
95°	0.1	2.1	10.9	19.8	22.9
97.5°	0.1	0.9	7.5	15.0	18.0
100°	0.1	0.4	4.8	10.9	13.5
102.5°	0.2	0.3	3.0	7.8	9.9
105°	0.2	0.3	1.8	5.3	7.1
107.5°	0.2	0.3	1.0	3.6	4.9
110°	0.3	0.3	0.6	2.2	3.2

TEST NUMBER: P517801

CATALOG NUMBER: HVL8-1-LD4-2LO-50-UNV-O-EDD-90

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.3	0.3	0.3	1.5	2.1
115°	0.3	0.3	0.3	0.9	1.4
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)