

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: P517176

Luminaire Tested: HVL12-1-LD4-1LO-50-UNV-C-EDD

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: P517176
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL12-1-LD4-1LO-50-UNV-C-EDD
Description: 1 FOOT, 12 INCH WIDE, HVL LED LUMINAIRE, WITH 5000K, 80 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 765.0 lumens
Efficiency: N/A
Efficacy: 129.7 lumens/watt
Spacing Criteria (0/90/45): 1.18 / 1.32 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 1' x L: 1' x H: 0.17')
CIE Type: Direct

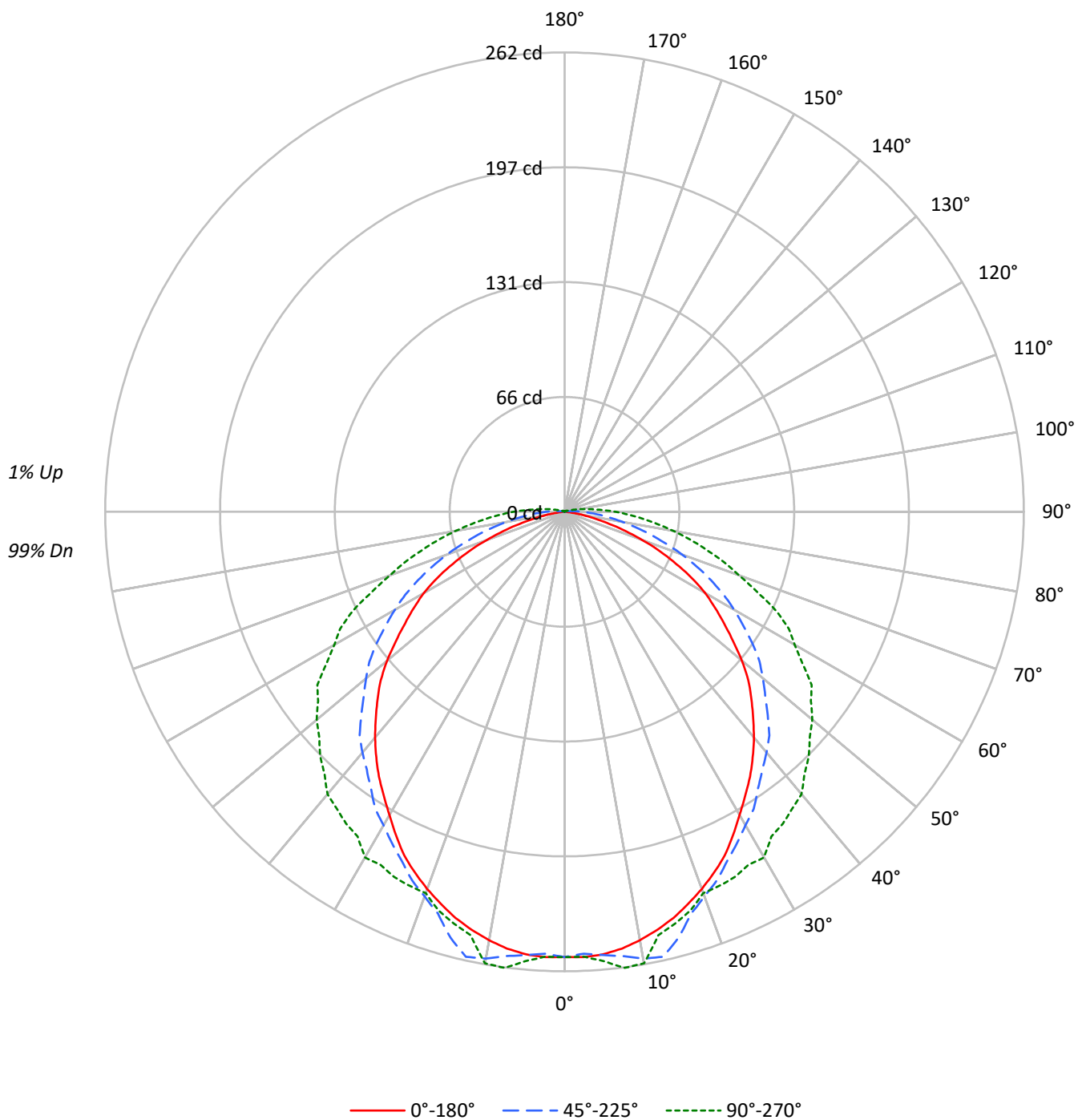
Input Watts (W): 5.9
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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: P517176

CATALOG NUMBER: HVL12-1-LD4-1LO-50-UNV-C-EDD

Luminous Intensity Polar Plot



TEST NUMBER: P517176

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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	30	10	50	30	10
RCR																				
0	119	119	119	119	116	116	116	116	110	110	110	105	105	105	101	101	101			99
1	108	103	98	94	105	100	96	92	96	92	89	91	89	86	87	85	83			81
2	98	89	82	76	95	87	80	75	83	78	73	80	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	51	62	56	51	60	54	50			47
5	75	61	52	45	72	60	51	45	58	50	44	56	49	44	54	48	43			41
6	69	55	46	39	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°	2733	2733	2733
5°	2698	2686	2739
10°	2633	2715	2776
15°	2558	2635	2594
20°	2472	2462	2499
25°	2384	2350	2532
30°	2264	2258	2581
35°	2171	2171	2555
40°	2072	2103	2592
45°	1968	2019	2570
50°	1845	1931	2578
55°	1684	1836	2609
60°	1547	1709	2532
65°	1319	1558	2495
70°	1025	1366	2288
75°	682	1137	2151
80°	341	904	2014
85°	102	669	1896

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 55°

Luminance: 2609 cd/sqm

TEST NUMBER: P517176

CATALOG NUMBER: HVL12-1-LD4-1LO-50-UNV-C-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	24.4	3.2
10°-20°	69.5	9.1
20°-30°	103.4	13.5
30°-40°	124.3	16.2
40°-50°	130.8	17.1
50°-60°	121.4	15.9
60°-70°	96.0	12.5
70°-80°	58.6	7.7
80°-90°	25.5	3.3
90°-100°	8.0	1.0
100°-110°	1.8	0.2
110°-120°	0.7	0.1
120°-130°	0.4	0.1
130°-140°	0.1	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°	197.3	25.8
0°-40°	321.6	42.0
0°-60°	573.9	75.0
0°-90°	754.0	98.6
90°-120°	10.5	1.4
90°-150°	11.0	1.4
90°-180°	11.0	1.4
0°-180°	765.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	254	254	254	254	254	
5°	253	253	254	256	257	24
15°	240	249	251	243	243	68
25°	216	230	220	226	230	99
35°	184	190	192	210	217	115
45°	151	152	164	190	197	116
55°	111	113	131	159	172	100
65°	70	72	92	122	133	70
75°	27	35	51	79	84	29
85°	2	8	20	39	45	4
90°	0	2	10	25	29	0
95°	0	1	5	14	16	0
105°	0	0	1	3	4	0
115°	0	0	1	1	1	0
125°	0	0	0	1	1	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: P517176

CATALOG NUMBER: HVL12-1-LD4-1LO-50-UNV-C-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	253.9	253.9	253.9	253.9	253.9
2.5°	254.2	253.6	252.2	253.5	253.9
5°	253.3	252.8	253.7	256.5	257.2
7.5°	251.2	253.2	255.5	260.7	262.3
10°	248.0	251.8	258.7	263.1	261.4
12.5°	244.2	250.5	259.9	251.3	247.3
15°	239.8	249.0	251.4	243.1	243.2
17.5°	234.5	247.7	240.2	240.0	238.5
20°	228.9	243.3	233.4	233.0	231.4
22.5°	222.8	237.6	227.4	226.6	230.9
25°	216.3	230.1	219.6	226.2	229.8
27.5°	208.1	220.3	213.1	222.4	227.0
30°	199.7	210.1	206.4	219.4	227.6
32.5°	191.9	199.5	200.9	218.2	219.6
35°	184.5	189.6	192.5	210.0	217.1
37.5°	176.4	177.8	185.3	206.5	213.4
40°	168.1	167.2	179.3	200.8	210.3
42.5°	159.2	158.9	173.0	198.0	202.7
45°	150.8	151.5	163.9	189.9	197.0
47.5°	142.2	143.0	155.3	181.1	189.8
50°	132.1	133.3	147.7	173.2	184.5
52.5°	121.3	123.4	140.2	165.7	177.2
55°	111.1	112.9	130.8	159.4	172.1
57.5°	101.8	102.8	121.0	151.4	160.9
60°	92.6	92.9	111.8	142.5	151.6
62.5°	82.1	82.6	102.3	132.0	144.2
65°	70.3	72.5	92.1	121.9	133.0
67.5°	59.3	63.2	81.7	112.7	118.5
70°	47.5	54.1	71.5	101.9	106.0
72.5°	36.7	44.4	61.1	89.8	95.5
75°	26.6	35.2	51.4	78.9	83.9
77.5°	17.9	26.7	42.3	66.9	73.5
80°	10.7	19.5	34.1	55.8	63.2
82.5°	5.5	13.1	26.5	46.8	53.4
85°	2.4	8.3	20.0	38.8	44.6
87.5°	0.7	4.7	14.7	31.4	36.3
90°	0.1	2.5	10.5	24.6	29.0
92.5°	0.1	1.2	7.4	18.6	22.0
95°	0.1	0.6	4.6	13.5	16.5
97.5°	0.1	0.4	2.8	9.6	12.1
100°	0.1	0.3	1.7	6.4	8.6
102.5°	0.1	0.4	1.1	4.0	5.6
105°	0.1	0.4	0.9	2.6	3.7
107.5°	0.1	0.4	0.8	2.0	2.6
110°	0.1	0.3	0.9	1.5	2.0

TEST NUMBER: P517176

CATALOG NUMBER: HVL12-1-LD4-1LO-50-UNV-C-EDD

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.1	0.3	0.8	1.2	1.5
115°	0.1	0.2	0.7	1.2	1.2
117.5°	0.1	0.2	0.6	1.2	1.2
120°	0.1	0.1	0.5	1.1	1.3
122.5°	0.1	0.1	0.4	1.0	1.2
125°	0.1	0.1	0.3	0.8	1.1
127.5°	0.1	0.1	0.3	0.6	0.8
130°	0.1	0.1	0.2	0.5	0.6
132.5°	0.1	0.1	0.2	0.4	0.5
135°	0.1	0.1	0.1	0.3	0.4
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)