

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: P517320

Luminaire Tested: HVL12-2-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: P517320
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL12-2-LD4-1LO-50-UNV-C-EDD
Description: 2 FOOT, 12 INCH WIDE, HVL LED LUMINAIRE, WITH 5000K, 80 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1530.0 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: 2' x H: 0.17')
CIE Type: Direct

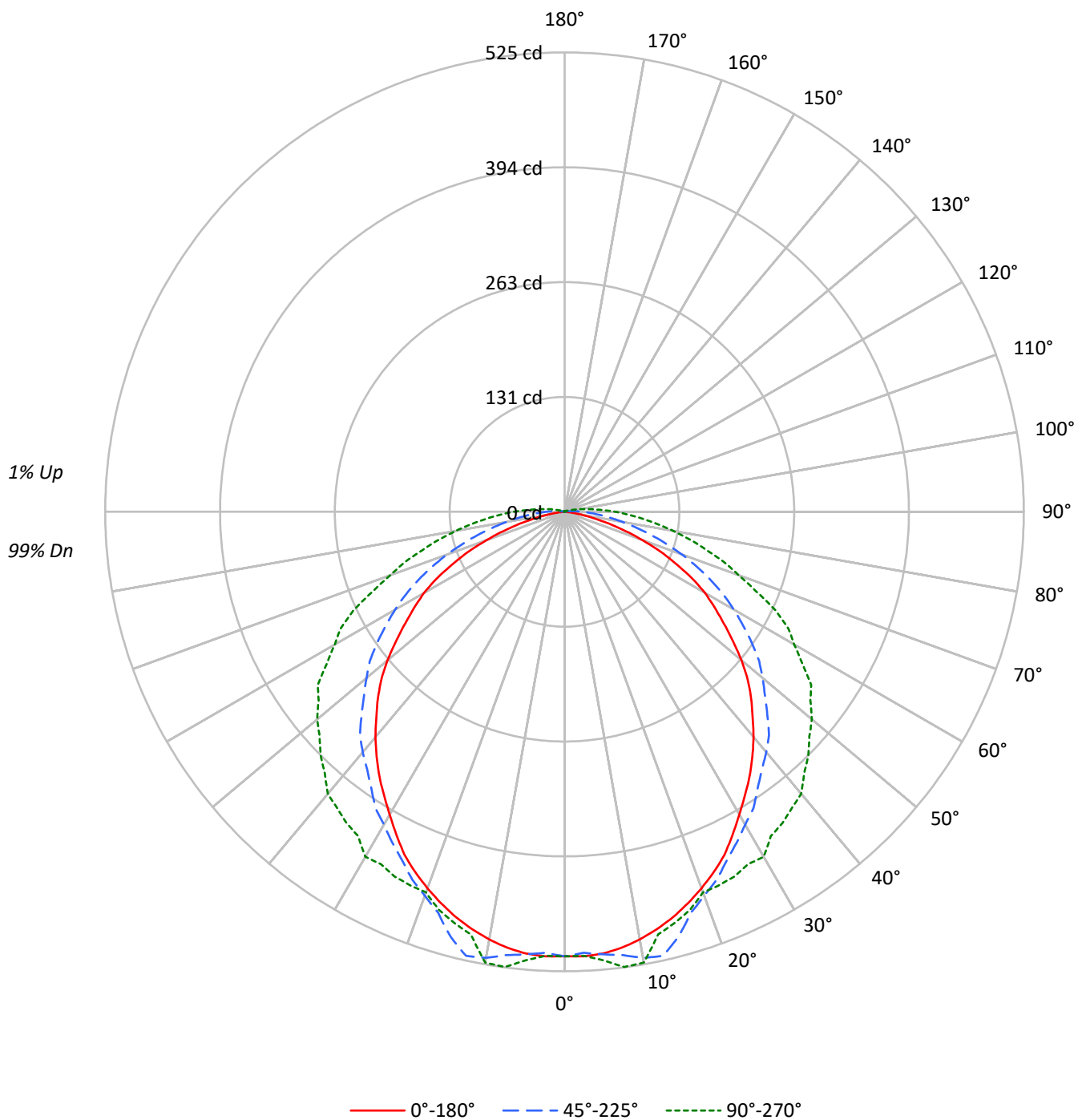
Input Watts (W): 11.8
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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

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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	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°	2717	2699	2740
10°	2672	2743	2776
15°	2613	2675	2595
20°	2545	2512	2499
25°	2473	2409	2533
30°	2369	2328	2580
35°	2291	2251	2555
40°	2208	2195	2593
45°	2119	2121	2570
50°	2012	2043	2578
55°	1862	1959	2608
60°	1742	1843	2532
65°	1519	1702	2495
70°	1216	1516	2288
75°	844	1287	2151
80°	450	1057	2014
85°	152	818	1896

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 55°

Luminance: 2608 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	48.8	3.2
10°-20°	139.0	9.1
20°-30°	206.8	13.5
30°-40°	248.6	16.2
40°-50°	261.7	17.1
50°-60°	242.8	15.9
60°-70°	192.0	12.5
70°-80°	117.3	7.7
80°-90°	51.1	3.3
90°-100°	15.9	1.0
100°-110°	3.6	0.2
110°-120°	1.4	0.1
120°-130°	0.8	0.1
130°-140°	0.2	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°	394.6	25.8
0°-40°	643.2	42.0
0°-60°	1147.7	75.0
0°-90°	1508.1	98.6
90°-120°	20.9	1.4
90°-150°	21.9	1.4
90°-180°	22.0	1.4
0°-180°	1530.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	508	508	508	508	508	
5°	507	506	507	513	514	48
15°	480	498	503	486	486	135
25°	433	460	439	452	460	199
35°	369	379	385	420	434	231
45°	302	303	328	380	394	232
55°	222	226	262	319	344	200
65°	141	145	184	244	266	139
75°	53	70	103	158	168	58
85°	5	17	40	78	89	7
90°	0	5	21	49	58	0
95°	0	1	9	27	33	0
105°	0	1	2	5	7	0
115°	0	0	1	2	2	0
125°	0	0	1	2	2	0
135°	0	0	0	0	1	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: P517320

CATALOG NUMBER: HVL12-2-LD4-1LO-50-UNV-C-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	507.9	507.9	507.9	507.9	507.9
2.5°	508.5	507.2	504.4	507.0	507.8
5°	506.6	505.6	507.4	513.0	514.5
7.5°	502.4	506.3	511.0	521.3	524.6
10°	496.1	503.5	517.5	526.3	522.9
12.5°	488.4	501.0	519.8	502.6	494.6
15°	479.5	497.9	502.8	486.2	486.5
17.5°	469.1	495.4	480.4	479.9	476.9
20°	457.8	486.7	466.8	466.0	462.8
22.5°	445.7	475.2	454.8	453.1	461.8
25°	432.6	460.2	439.2	452.3	459.7
27.5°	416.1	440.5	426.1	444.8	454.0
30°	399.5	420.2	412.8	438.8	455.1
32.5°	383.8	399.0	401.8	436.5	439.2
35°	369.0	379.3	385.0	419.9	434.2
37.5°	352.8	355.6	370.7	413.0	426.8
40°	336.2	334.5	358.7	401.6	420.7
42.5°	318.4	317.8	346.0	395.9	405.5
45°	301.6	302.9	327.9	379.8	394.0
47.5°	284.3	286.1	310.7	362.1	379.7
50°	264.2	266.5	295.4	346.4	369.0
52.5°	242.5	246.9	280.5	331.5	354.3
55°	222.1	225.7	261.5	318.8	344.1
57.5°	203.5	205.7	242.0	302.7	321.9
60°	185.2	185.7	223.6	284.9	303.2
62.5°	164.2	165.1	204.6	263.9	288.4
65°	140.6	145.0	184.3	243.9	266.0
67.5°	118.6	126.3	163.5	225.4	237.0
70°	95.0	108.1	143.1	203.8	212.0
72.5°	73.4	88.8	122.2	179.6	191.1
75°	53.2	70.5	102.7	157.9	167.8
77.5°	35.8	53.4	84.5	133.9	147.0
80°	21.4	39.0	68.3	111.6	126.4
82.5°	11.0	26.2	53.0	93.6	106.9
85°	4.8	16.6	40.0	77.7	89.2
87.5°	1.3	9.4	29.5	62.8	72.5
90°	0.1	5.0	21.0	49.2	58.0
92.5°	0.1	2.4	14.8	37.2	44.0
95°	0.1	1.2	9.2	27.0	33.0
97.5°	0.1	0.7	5.6	19.1	24.2
100°	0.1	0.6	3.3	12.7	17.3
102.5°	0.1	0.7	2.3	8.1	11.3
105°	0.1	0.7	1.9	5.3	7.4
107.5°	0.2	0.7	1.7	3.9	5.2
110°	0.1	0.6	1.8	3.0	4.0

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CATALOG NUMBER: HVL12-2-LD4-1LO-50-UNV-C-EDD

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.2	0.5	1.7	2.5	3.0
115°	0.1	0.4	1.4	2.4	2.5
117.5°	0.2	0.3	1.1	2.4	2.5
120°	0.2	0.2	0.9	2.3	2.6
122.5°	0.2	0.2	0.7	2.1	2.5
125°	0.1	0.2	0.6	1.6	2.2
127.5°	0.2	0.2	0.5	1.2	1.7
130°	0.2	0.2	0.4	0.9	1.2
132.5°	0.2	0.2	0.3	0.7	0.9
135°	0.2	0.2	0.2	0.5	0.7
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)