

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: P517192

Luminaire Tested: HVL12-1-LD4-1STD-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: P517192
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL12-1-LD4-1STD-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: 985.0 lumens
Efficiency: N/A
Efficacy: 117.3 lumens/watt
Spacing Criteria (0/90/45): 1.18 / 1.32 / 1.36
Luminous Opening: Rectangular w/ Sides (W: 1' x L: 1' x H: 0.17')
CIE Type: Direct

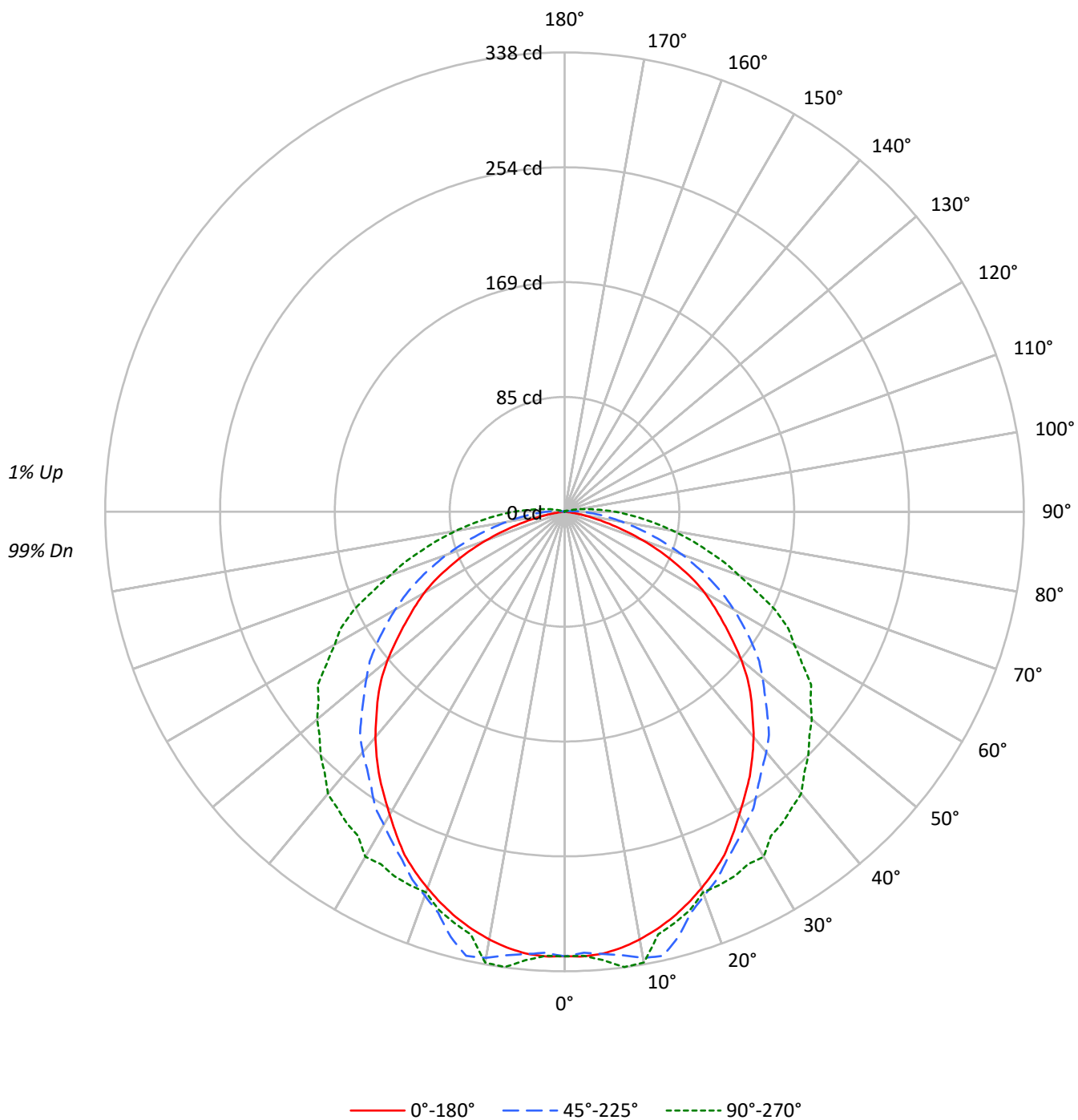
Input Watts (W): 8.4
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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
RCR																	
0	119	119	119	119	116	116	116	116	110	110	110		105	105	105		101
1	108	103	98	94	105	100	96	92	96	92	89		91	89	86		87
2	98	89	82	76	95	87	80	75	83	78	73		80	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	51		62	56	51		60
5	75	61	52	45	72	60	51	45	58	50	44		56	49	44		54
6	69	55	46	39	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°	3520	3520	3520
5°	3474	3458	3527
10°	3391	3497	3574
15°	3293	3393	3341
20°	3183	3170	3217
25°	3069	3025	3261
30°	2916	2908	3322
35°	2796	2795	3289
40°	2669	2709	3338
45°	2534	2600	3309
50°	2376	2486	3319
55°	2168	2364	3357
60°	1991	2200	3261
65°	1698	2006	3212
70°	1319	1759	2946
75°	877	1462	2769
80°	440	1167	2594
85°	132	862	2440

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 55°

Luminance: 3357 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	31.4	3.2
10°-20°	89.5	9.1
20°-30°	133.2	13.5
30°-40°	160.0	16.2
40°-50°	168.5	17.1
50°-60°	156.3	15.9
60°-70°	123.6	12.5
70°-80°	75.5	7.7
80°-90°	32.9	3.3
90°-100°	10.2	1.0
100°-110°	2.3	0.2
110°-120°	0.9	0.1
120°-130°	0.5	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°	254.1	25.8
0°-40°	414.1	42.0
0°-60°	738.9	75.0
0°-90°	970.9	98.6
90°-120°	13.5	1.4
90°-150°	14.1	1.4
90°-180°	14.0	1.4
0°-180°	985.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	327	327	327	327	327	
5°	326	326	327	330	331	31
15°	309	321	324	313	313	87
25°	278	296	283	291	296	128
35°	238	244	248	270	280	148
45°	194	195	211	244	254	150
55°	143	145	168	205	222	128
65°	90	93	119	157	171	90
75°	34	45	66	102	108	37
85°	3	11	26	50	57	5
90°	0	3	14	32	37	0
95°	0	1	6	17	21	0
105°	0	0	1	3	5	0
115°	0	0	1	2	2	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

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	327.0	327.0	327.0	327.0	327.0
2.5°	327.4	326.5	324.7	326.4	326.9
5°	326.2	325.5	326.6	330.3	331.2
7.5°	323.4	326.0	329.0	335.6	337.8
10°	319.4	324.2	333.2	338.8	336.6
12.5°	314.4	322.6	334.6	323.6	318.4
15°	308.7	320.6	323.7	313.0	313.2
17.5°	302.0	318.9	309.2	309.0	307.1
20°	294.7	313.3	300.5	300.0	297.9
22.5°	286.9	305.9	292.8	291.7	297.3
25°	278.5	296.3	282.7	291.2	295.9
27.5°	267.9	283.6	274.3	286.3	292.3
30°	257.2	270.6	265.8	282.5	293.0
32.5°	247.1	256.9	258.7	281.0	282.7
35°	237.6	244.2	247.8	270.4	279.5
37.5°	227.1	228.9	238.6	265.9	274.7
40°	216.5	215.3	230.9	258.6	270.8
42.5°	205.0	204.6	222.7	254.9	261.0
45°	194.2	195.0	211.1	244.5	253.6
47.5°	183.0	184.2	200.0	233.1	244.4
50°	170.1	171.6	190.2	223.0	237.6
52.5°	156.1	158.9	180.6	213.4	228.1
55°	143.0	145.3	168.4	205.2	221.5
57.5°	131.0	132.4	155.8	194.9	207.2
60°	119.2	119.6	143.9	183.4	195.2
62.5°	105.7	106.3	131.7	169.9	185.7
65°	90.5	93.4	118.6	157.0	171.2
67.5°	76.3	81.3	105.2	145.1	152.6
70°	61.1	69.6	92.1	131.2	136.5
72.5°	47.2	57.1	78.7	115.6	123.0
75°	34.2	45.4	66.1	101.6	108.0
77.5°	23.0	34.4	54.4	86.2	94.6
80°	13.8	25.1	44.0	71.9	81.4
82.5°	7.1	16.9	34.1	60.3	68.8
85°	3.1	10.7	25.8	50.0	57.4
87.5°	0.9	6.1	19.0	40.4	46.7
90°	0.1	3.2	13.5	31.7	37.4
92.5°	0.1	1.5	9.5	24.0	28.3
95°	0.1	0.8	5.9	17.4	21.2
97.5°	0.1	0.5	3.6	12.3	15.6
100°	0.1	0.4	2.1	8.2	11.1
102.5°	0.1	0.5	1.5	5.2	7.3
105°	0.1	0.5	1.2	3.4	4.8
107.5°	0.1	0.5	1.1	2.5	3.3
110°	0.1	0.4	1.1	1.9	2.6

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.1	0.3	1.1	1.6	1.9
115°	0.1	0.3	0.9	1.5	1.6
117.5°	0.1	0.2	0.7	1.5	1.6
120°	0.1	0.1	0.6	1.5	1.7
122.5°	0.1	0.1	0.5	1.3	1.6
125°	0.1	0.1	0.4	1.0	1.4
127.5°	0.1	0.1	0.3	0.8	1.1
130°	0.1	0.1	0.3	0.6	0.8
132.5°	0.1	0.1	0.2	0.5	0.6
135°	0.1	0.1	0.1	0.3	0.5
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)