

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: P517300

Luminaire Tested: HVL12-2-LD4-1HI-40-UNV-C-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: P517300
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL12-2-LD4-1HI-40-UNV-C-EDD
Description: 2 FOOT, 12 INCH WIDE, HVL LED LUMINAIRE, WITH 4000K, 80 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2494.0 lumens
Efficiency: N/A
Efficacy: 112.9 lumens/watt
Spacing Criteria (0/90/45): 1.18 / 1.32 / 1.36
Luminous Opening: Rectangular w/ Sides (W: 1' x L: 2' x H: 0.17')
CIE Type: Direct

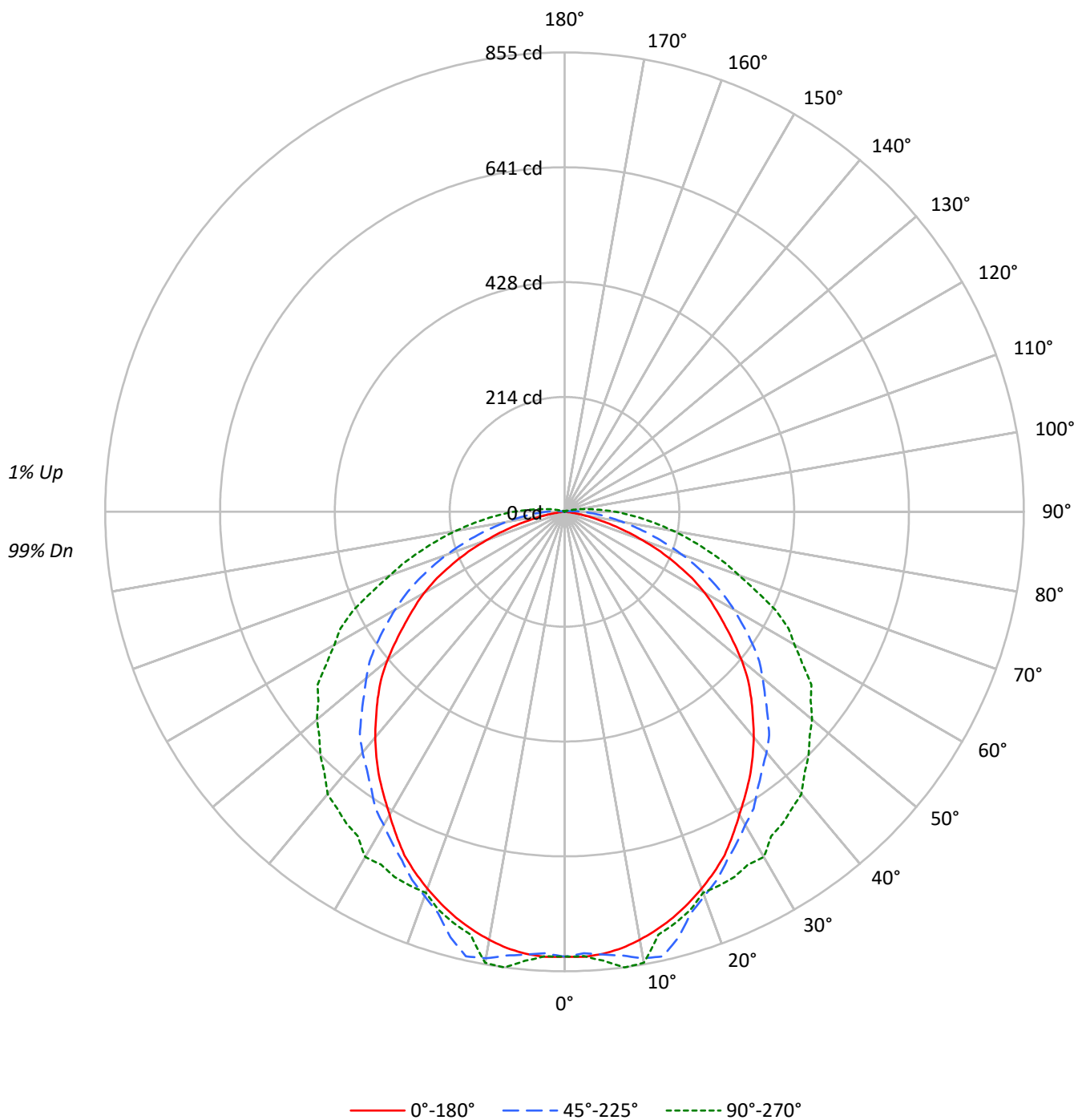
Input Watts (W): 22.1
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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: P517300

CATALOG NUMBER: HVL12-2-LD4-1HI-40-UNV-C-EDD

Luminous Intensity Polar Plot



TEST NUMBER: P517300

CATALOG NUMBER: HVL12-2-LD4-1HI-40-UNV-C-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			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°	4456	4456	4456
5°	4429	4400	4466
10°	4355	4471	4525
15°	4260	4360	4230
20°	4148	4094	4073
25°	4030	3927	4129
30°	3861	3794	4206
35°	3735	3669	4164
40°	3599	3577	4226
45°	3454	3456	4190
50°	3280	3330	4202
55°	3036	3194	4251
60°	2840	3003	4129
65°	2476	2774	4068
70°	1982	2470	3730
75°	1375	2098	3506
80°	734	1722	3284
85°	247	1335	3090

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 55°

Luminance: 4251 cd/sqm

TEST NUMBER: P517300

CATALOG NUMBER: HVL12-2-LD4-1HI-40-UNV-C-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	79.6	3.2
10°-20°	226.6	9.1
20°-30°	337.1	13.5
30°-40°	405.2	16.2
40°-50°	426.5	17.1
50°-60°	395.8	15.9
60°-70°	312.9	12.5
70°-80°	191.2	7.7
80°-90°	83.3	3.3
90°-100°	25.9	1.0
100°-110°	5.8	0.2
110°-120°	2.3	0.1
120°-130°	1.3	0.1
130°-140°	0.3	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°	643.3	25.8
0°-40°	1048.5	42.0
0°-60°	1870.9	75.0
0°-90°	2458.3	98.6
90°-120°	34.1	1.4
90°-150°	35.7	1.4
90°-180°	36.0	1.4
0°-180°	2494.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	828	828	828	828	828	
5°	826	824	827	836	839	78
15°	782	812	820	792	793	220
25°	705	750	716	737	749	324
35°	602	618	628	684	708	376
45°	492	494	534	619	642	379
55°	362	368	426	520	561	325
65°	229	236	300	398	434	227
75°	87	115	168	257	274	95
85°	8	27	65	127	145	12
90°	0	8	34	80	95	0
95°	0	2	15	44	54	0
105°	0	1	3	9	12	0
115°	0	1	2	4	4	0
125°	0	0	1	2	4	0
135°	0	0	0	1	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: P517300

CATALOG NUMBER: HVL12-2-LD4-1HI-40-UNV-C-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	827.9	827.9	827.9	827.9	827.9
2.5°	828.9	826.7	822.1	826.5	827.7
5°	825.8	824.2	827.0	836.3	838.7
7.5°	818.9	825.3	832.9	849.8	855.2
10°	808.6	820.8	843.6	857.9	852.3
12.5°	796.2	816.7	847.3	819.3	806.3
15°	781.7	811.7	819.6	792.5	793.0
17.5°	764.6	807.5	783.0	782.3	777.4
20°	746.2	793.3	760.9	759.6	754.3
22.5°	726.5	774.6	741.4	738.7	752.8
25°	705.1	750.1	715.9	737.3	749.3
27.5°	678.3	718.1	694.6	725.0	740.0
30°	651.1	685.0	672.9	715.2	741.9
32.5°	625.7	650.5	655.0	711.5	715.9
35°	601.6	618.2	627.5	684.5	707.8
37.5°	575.1	579.6	604.3	673.2	695.7
40°	548.1	545.2	584.7	654.7	685.7
42.5°	519.1	518.1	563.9	645.4	660.9
45°	491.6	493.8	534.4	619.1	642.2
47.5°	463.4	466.3	506.4	590.3	618.9
50°	430.7	434.4	481.5	564.6	601.6
52.5°	395.3	402.4	457.2	540.3	577.6
55°	362.1	368.0	426.3	519.6	560.9
57.5°	331.7	335.3	394.5	493.5	524.7
60°	301.9	302.7	364.4	464.4	494.3
62.5°	267.6	269.2	333.6	430.2	470.2
65°	229.2	236.4	300.4	397.5	433.6
67.5°	193.3	205.9	266.5	367.5	386.4
70°	154.8	176.2	233.2	332.2	345.6
72.5°	119.6	144.7	199.2	292.8	311.5
75°	86.7	114.8	167.5	257.4	273.5
77.5°	58.4	87.0	137.8	218.2	239.6
80°	34.9	63.6	111.3	182.0	206.1
82.5°	17.9	42.7	86.3	152.6	174.2
85°	7.8	27.0	65.3	126.7	145.4
87.5°	2.2	15.3	48.1	102.4	118.2
90°	0.2	8.1	34.2	80.3	94.6
92.5°	0.2	3.9	24.1	60.7	71.7
95°	0.2	2.0	15.0	44.0	53.8
97.5°	0.2	1.2	9.1	31.2	39.5
100°	0.2	1.0	5.4	20.7	28.2
102.5°	0.2	1.2	3.7	13.2	18.4
105°	0.2	1.2	3.0	8.6	12.1
107.5°	0.3	1.2	2.7	6.4	8.4
110°	0.2	1.0	2.9	4.9	6.6

TEST NUMBER: P517300

CATALOG NUMBER: HVL12-2-LD4-1HI-40-UNV-C-EDD

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.3	0.8	2.7	4.0	4.9
115°	0.2	0.7	2.4	3.9	4.0
117.5°	0.3	0.5	1.9	3.9	4.0
120°	0.3	0.3	1.5	3.7	4.2
122.5°	0.3	0.3	1.2	3.4	4.0
125°	0.2	0.3	1.0	2.5	3.5
127.5°	0.3	0.3	0.8	2.0	2.7
130°	0.3	0.3	0.7	1.5	2.0
132.5°	0.3	0.3	0.5	1.2	1.5
135°	0.3	0.3	0.3	0.8	1.2
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)