

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: P517384

Luminaire Tested: HVL12-2-LD4-2STD-50-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: P517384
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL12-2-LD4-2STD-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: 3743.0 lumens
Efficiency: N/A
Efficacy: 111.4 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

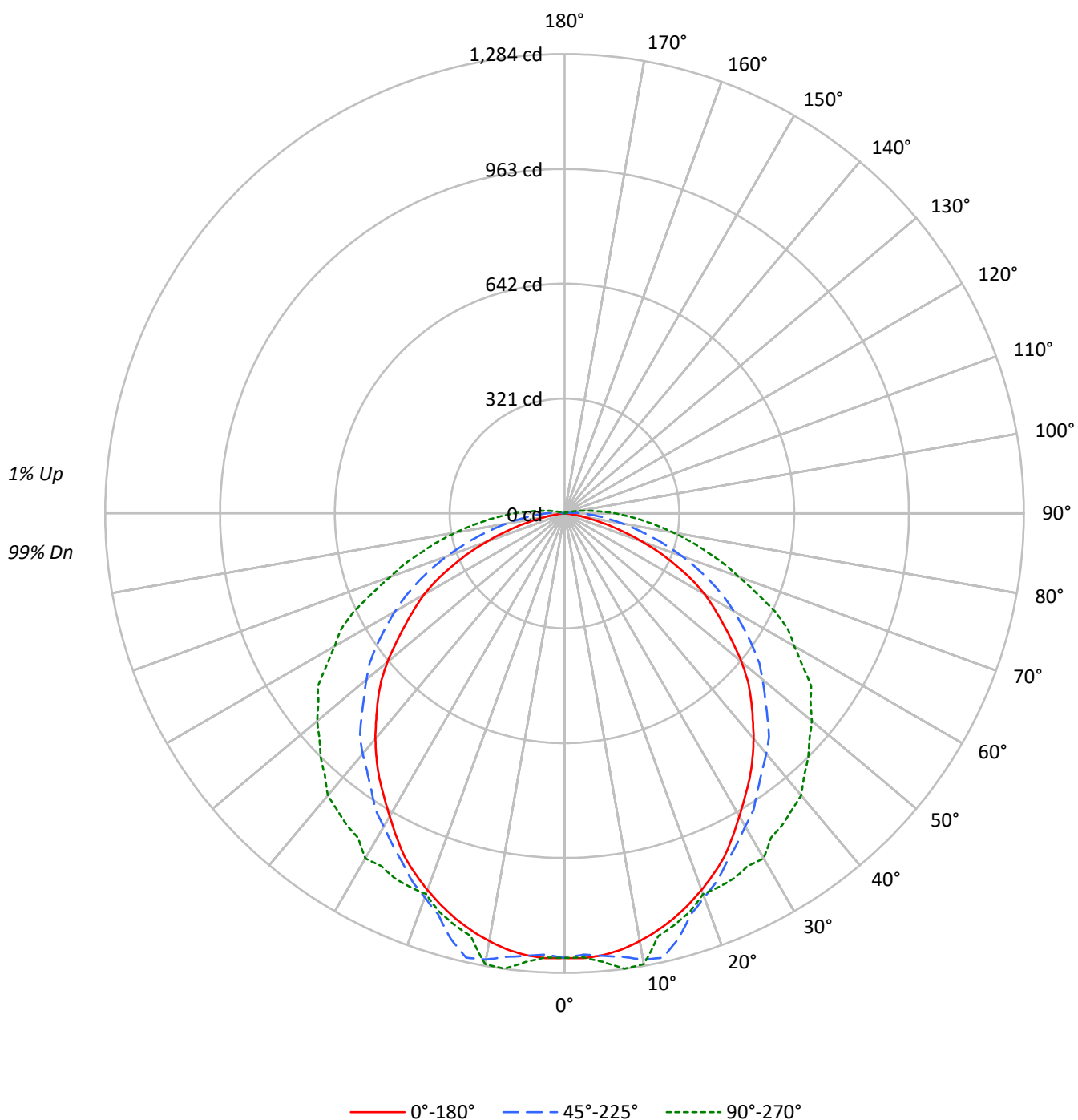
Input Watts (W): 33.6
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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: P517384

CATALOG NUMBER: HVL12-2-LD4-2STD-50-UNV-C-EDD

Luminous Intensity Polar Plot



TEST NUMBER: P517384

CATALOG NUMBER: HVL12-2-LD4-2STD-50-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°	6687	6687	6687
5°	6647	6603	6702
10°	6536	6709	6791
15°	6394	6544	6347
20°	6226	6145	6113
25°	6049	5894	6196
30°	5794	5695	6312
35°	5604	5506	6250
40°	5402	5369	6343
45°	5184	5188	6288
50°	4923	4997	6306
55°	4556	4793	6380
60°	4262	4507	6196
65°	3716	4163	6104
70°	2974	3707	5597
75°	2063	3148	5262
80°	1103	2584	4928
85°	367	2003	4638

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 55°

Luminance: 6380 cd/sqm

TEST NUMBER: P517384

CATALOG NUMBER: HVL12-2-LD4-2STD-50-UNV-C-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	119.4	3.2
10°-20°	340.1	9.1
20°-30°	506.0	13.5
30°-40°	608.2	16.2
40°-50°	640.2	17.1
50°-60°	594.0	15.9
60°-70°	469.7	12.5
70°-80°	286.9	7.7
80°-90°	125.0	3.3
90°-100°	38.9	1.0
100°-110°	8.7	0.2
110°-120°	3.5	0.1
120°-130°	2.0	0.1
130°-140°	0.5	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°	965.5	25.8
0°-40°	1573.7	42.0
0°-60°	2807.8	75.0
0°-90°	3689.3	98.6
90°-120°	51.2	1.4
90°-150°	53.7	1.4
90°-180°	54.0	1.4
0°-180°	3743.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1242	1242	1242	1242	1242	
5°	1239	1237	1241	1255	1259	117
15°	1173	1218	1230	1189	1190	330
25°	1058	1126	1074	1107	1124	486
35°	903	928	942	1027	1062	564
45°	738	741	802	929	964	569
55°	543	552	640	780	842	488
65°	344	355	451	597	651	341
75°	130	172	251	386	410	142
85°	12	40	98	190	218	18
90°	0	12	51	120	142	1
95°	0	3	22	66	81	0
105°	0	2	5	13	18	0
115°	0	1	4	6	6	0
125°	0	0	2	4	5	0
135°	0	0	0	1	2	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: P517384

CATALOG NUMBER: HVL12-2-LD4-2STD-50-UNV-C-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1242.5	1242.5	1242.5	1242.5	1242.5
2.5°	1244.0	1240.7	1233.9	1240.4	1242.2
5°	1239.4	1236.9	1241.2	1255.1	1258.7
7.5°	1229.1	1238.7	1250.1	1275.4	1283.5
10°	1213.6	1231.8	1266.0	1287.5	1279.2
12.5°	1194.9	1225.8	1271.6	1229.6	1210.1
15°	1173.1	1218.2	1230.1	1189.3	1190.1
17.5°	1147.6	1211.8	1175.1	1174.1	1166.8
20°	1120.0	1190.6	1142.0	1140.0	1132.1
22.5°	1090.4	1162.5	1112.6	1108.6	1129.8
25°	1058.2	1125.8	1074.4	1106.6	1124.5
27.5°	1018.0	1077.7	1042.5	1088.1	1110.6
30°	977.2	1028.1	1009.9	1073.4	1113.4
32.5°	939.0	976.2	983.0	1067.8	1074.4
35°	902.8	927.9	941.8	1027.3	1062.3
37.5°	863.1	869.9	906.9	1010.4	1044.0
40°	822.6	818.3	877.5	982.5	1029.1
42.5°	779.0	777.5	846.4	968.6	991.9
45°	737.8	741.1	802.1	929.1	963.8
47.5°	695.5	699.8	760.1	885.9	928.9
50°	646.4	652.0	722.6	847.4	902.8
52.5°	593.3	603.9	686.2	810.9	866.9
55°	543.4	552.3	639.8	779.8	841.8
57.5°	497.8	503.2	592.0	740.6	787.4
60°	453.1	454.3	547.0	697.0	741.8
62.5°	401.7	403.9	500.6	645.7	705.6
65°	344.0	354.8	450.8	596.6	650.7
67.5°	290.1	309.0	399.9	551.5	579.9
70°	232.3	264.5	350.0	498.6	518.6
72.5°	179.4	217.2	298.9	439.4	467.5
75°	130.1	172.4	251.3	386.2	410.5
77.5°	87.6	130.6	206.8	327.5	359.7
80°	52.4	95.4	167.0	273.1	309.3
82.5°	26.8	64.0	129.6	229.1	261.5
85°	11.6	40.5	98.0	190.1	218.2
87.5°	3.3	23.0	72.1	153.6	177.4
90°	0.3	12.1	51.4	120.5	142.0
92.5°	0.3	5.8	36.2	91.1	107.6
95°	0.3	3.0	22.5	66.1	80.7
97.5°	0.3	1.8	13.7	46.8	59.2
100°	0.3	1.5	8.1	31.1	42.3
102.5°	0.3	1.8	5.6	19.7	27.6
105°	0.3	1.8	4.6	12.9	18.2
107.5°	0.5	1.8	4.0	9.6	12.7
110°	0.3	1.5	4.3	7.3	9.9

TEST NUMBER: P517384

CATALOG NUMBER: HVL12-2-LD4-2STD-50-UNV-C-EDD

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.5	1.3	4.0	6.1	7.3
115°	0.3	1.0	3.5	5.8	6.1
117.5°	0.5	0.8	2.8	5.8	6.1
120°	0.5	0.5	2.3	5.6	6.3
122.5°	0.5	0.5	1.8	5.1	6.1
125°	0.3	0.5	1.5	3.8	5.3
127.5°	0.5	0.5	1.3	3.0	4.0
130°	0.5	0.5	1.0	2.3	3.0
132.5°	0.5	0.5	0.8	1.8	2.3
135°	0.5	0.5	0.5	1.3	1.8
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)