

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: P517663

Luminaire Tested: HVL12-8-LD4-2STD-35-UNV-C-EDD-90

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: P517663
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL12-8-LD4-2STD-35-UNV-C-EDD-90
Description: 8 FOOT, 12 INCH WIDE, HVL LED LUMINAIRE, WITH 3500K, 90 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 14575.0 lumens
Efficiency: N/A
Efficacy: 108.5 lumens/watt
Spacing Criteria (0/90/45): 1.18 / 1.32 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 1' x L: 8' x H: 0.17')
CIE Type: Direct

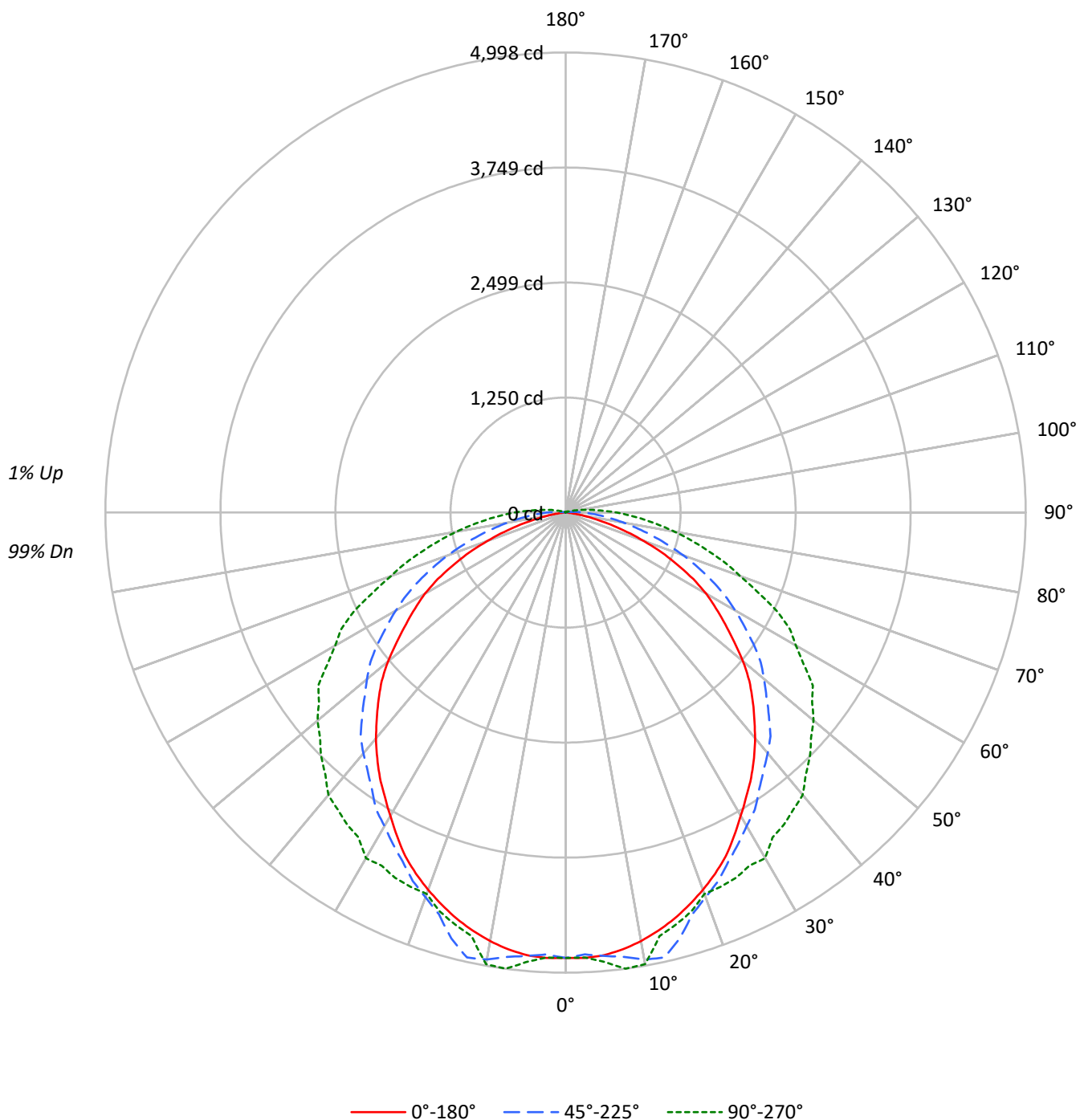
Input Watts (W): 134.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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: P517663

CATALOG NUMBER: HVL12-8-LD4-2STD-35-UNV-C-EDD-90

Luminous Intensity Polar Plot



TEST NUMBER: P517663

CATALOG NUMBER: HVL12-8-LD4-2STD-35-UNV-C-EDD-90

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°	6510	6510	6510
5°	6507	6453	6525
10°	6433	6581	6611
15°	6328	6443	6179
20°	6197	6074	5951
25°	6059	5849	6032
30°	5842	5675	6144
35°	5691	5512	6084
40°	5529	5401	6175
45°	5355	5247	6121
50°	5141	5086	6139
55°	4820	4914	6211
60°	4582	4661	6032
65°	4082	4351	5943
70°	3366	3930	5449
75°	2444	3403	5123
80°	1414	2877	4797
85°	565	2340	4514

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 55°

Luminance: 6211 cd/sqm

TEST NUMBER: P517663

CATALOG NUMBER: HVL12-8-LD4-2STD-35-UNV-C-EDD-90

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	465.0	3.2
10°-20°	1324.2	9.1
20°-30°	1970.3	13.5
30°-40°	2368.3	16.2
40°-50°	2492.7	17.1
50°-60°	2313.0	15.9
60°-70°	1828.8	12.5
70°-80°	1117.1	7.7
80°-90°	486.7	3.3
90°-100°	151.5	1.0
100°-110°	34.0	0.2
110°-120°	13.7	0.1
120°-130°	7.7	0.1
130°-140°	2.1	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°	3759.4	25.8
0°-40°	6127.7	42.0
0°-60°	10933.4	75.0
0°-90°	14366.0	98.6
90°-120°	199.3	1.4
90°-150°	209.0	1.4
90°-180°	209.0	1.4
0°-180°	14575.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4838	4838	4838	4838	4838	
5°	4826	4816	4833	4887	4901	457
15°	4568	4744	4790	4631	4634	1287
25°	4121	4384	4184	4309	4379	1892
35°	3516	3613	3667	4000	4136	2197
45°	2873	2886	3123	3618	3753	2215
55°	2116	2150	2492	3036	3278	1901
65°	1339	1382	1755	2323	2534	1326
75°	507	671	979	1504	1599	553
85°	45	158	381	740	850	70
90°	1	47	200	469	553	2
95°	1	12	88	257	314	1
105°	1	7	18	50	71	1
115°	1	4	14	23	24	2
125°	1	2	6	15	21	2
135°	2	2	2	5	7	1
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: P517663

CATALOG NUMBER: HVL12-8-LD4-2STD-35-UNV-C-EDD-90

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4838.1	4838.1	4838.1	4838.1	4838.1
2.5°	4844.0	4831.2	4804.6	4830.2	4837.1
5°	4826.3	4816.4	4833.2	4887.4	4901.2
7.5°	4785.9	4823.3	4867.7	4966.2	4997.8
10°	4725.8	4796.7	4929.8	5013.5	4981.0
12.5°	4652.8	4773.1	4951.4	4787.8	4712.0
15°	4568.1	4743.5	4789.8	4631.1	4634.1
17.5°	4468.5	4718.9	4575.9	4572.0	4543.4
20°	4361.1	4636.1	4446.8	4439.0	4408.4
22.5°	4245.8	4526.7	4332.5	4316.7	4399.5
25°	4120.6	4383.8	4183.7	4308.9	4378.8
27.5°	3963.9	4196.5	4059.5	4236.9	4324.6
30°	3805.2	4003.3	3932.4	4179.8	4335.5
32.5°	3656.4	3801.3	3827.9	4158.1	4183.7
35°	3515.5	3613.1	3667.3	4000.4	4136.4
37.5°	3360.8	3387.4	3531.3	3934.3	4065.4
40°	3203.1	3186.3	3416.9	3825.9	4007.3
42.5°	3033.5	3027.6	3295.7	3771.7	3862.4
45°	2872.9	2885.7	3123.2	3618.0	3753.0
47.5°	2708.3	2725.1	2959.6	3449.5	3617.0
50°	2517.1	2538.8	2813.8	3299.7	3515.5
52.5°	2310.1	2351.5	2671.8	3157.7	3375.5
55°	2116.0	2150.5	2491.5	3036.5	3278.0
57.5°	1938.6	1959.3	2305.2	2883.7	3066.1
60°	1764.1	1769.1	2129.8	2714.2	2888.7
62.5°	1564.1	1573.0	1949.4	2514.2	2747.7
65°	1339.4	1381.8	1755.3	2323.0	2533.9
67.5°	1129.5	1203.4	1557.2	2147.5	2257.9
70°	904.7	1029.9	1363.0	1941.6	2019.4
72.5°	698.8	845.6	1163.9	1710.9	1820.3
75°	506.6	671.2	978.7	1504.0	1598.6
77.5°	341.0	508.5	805.2	1275.3	1400.5
80°	204.0	371.6	650.5	1063.4	1204.4
82.5°	104.5	249.3	504.6	891.9	1018.1
85°	45.3	157.7	381.4	740.2	849.6
87.5°	12.8	89.7	280.9	598.2	690.9
90°	1.0	47.3	200.1	469.1	552.9
92.5°	1.0	22.7	140.9	354.8	418.9
95°	1.0	11.8	87.7	257.2	314.4
97.5°	1.0	6.9	53.2	182.3	230.6
100°	1.0	5.9	31.5	121.2	164.6
102.5°	1.0	6.9	21.7	76.9	107.4
105°	1.0	6.9	17.7	50.3	71.0
107.5°	2.0	6.9	15.8	37.5	49.3
110°	1.0	5.9	16.8	28.6	38.4

TEST NUMBER: P517663

CATALOG NUMBER: HVL12-8-LD4-2STD-35-UNV-C-EDD-90

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	2.0	4.9	15.8	23.7	28.6
115°	1.0	3.9	13.8	22.7	23.7
117.5°	2.0	3.0	10.8	22.7	23.7
120°	2.0	2.0	8.9	21.7	24.6
122.5°	2.0	2.0	6.9	19.7	23.7
125°	1.0	2.0	5.9	14.8	20.7
127.5°	2.0	2.0	4.9	11.8	15.8
130°	2.0	2.0	3.9	8.9	11.8
132.5°	2.0	2.0	3.0	6.9	8.9
135°	2.0	2.0	2.0	4.9	6.9
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)