

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: P517632

Luminaire Tested: HVL12-8-LD4-2HI-35-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: P517632
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL12-8-LD4-2HI-35-UNV-C-EDD
Description: 8 FOOT, 12 INCH WIDE, HVL LED LUMINAIRE, WITH 3500K, 80 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 15694.0 lumens
Efficiency: N/A
Efficacy: 88.7 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

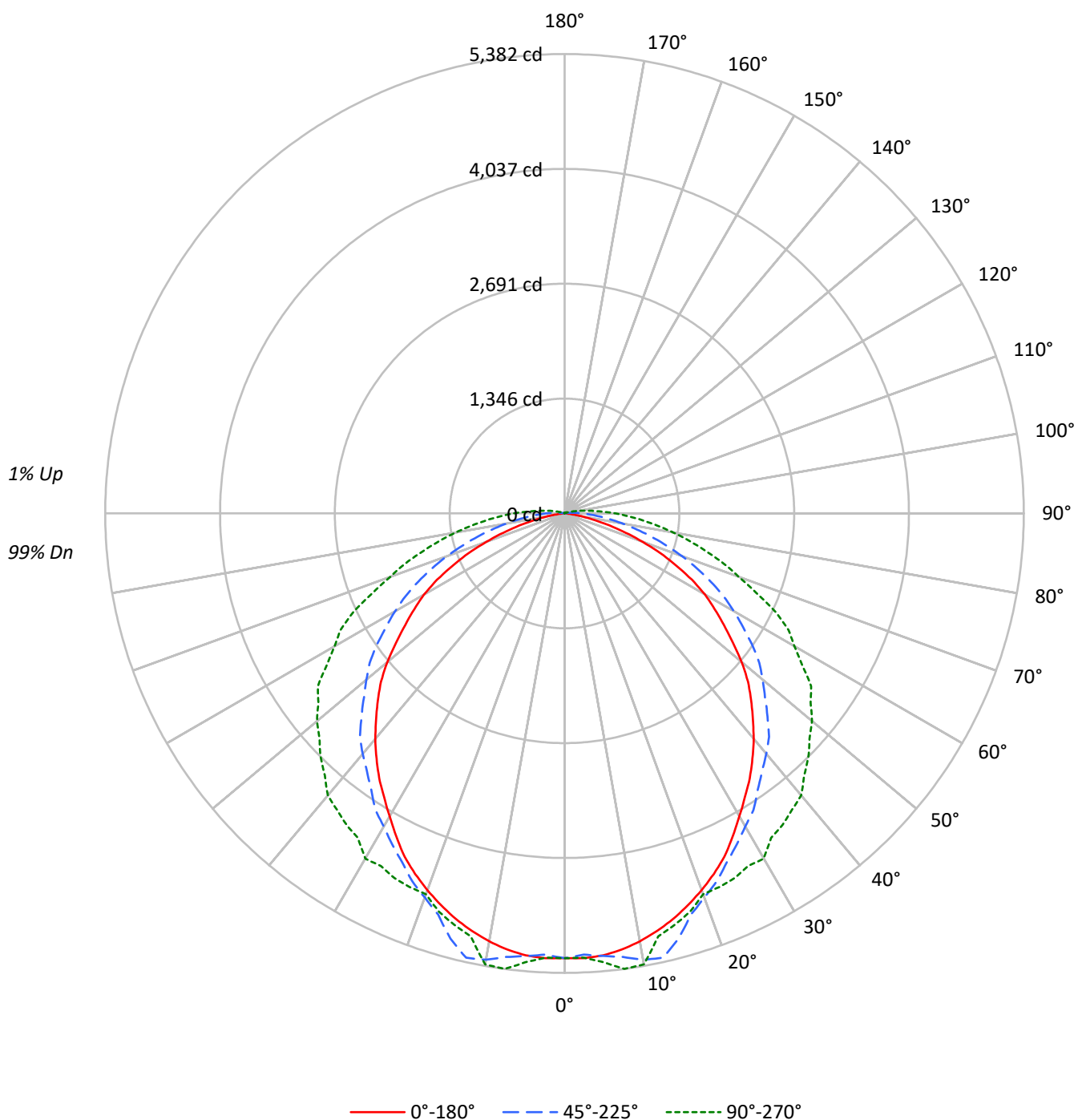
Input Watts (W): 176.9
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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: P517632

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

Luminous Intensity Polar Plot



TEST NUMBER: P517632

CATALOG NUMBER: HVL12-8-LD4-2HI-35-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°	7009	7009	7009
5°	7006	6948	7025
10°	6927	7087	7118
15°	6814	6938	6654
20°	6673	6540	6408
25°	6524	6298	6495
30°	6290	6111	6616
35°	6128	5935	6551
40°	5954	5815	6649
45°	5766	5650	6591
50°	5536	5477	6610
55°	5190	5291	6688
60°	4934	5019	6495
65°	4395	4685	6399
70°	3625	4232	5867
75°	2631	3665	5516
80°	1522	3097	5165
85°	608	2520	4861

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 55°

Luminance: 6688 cd/sqm

TEST NUMBER: P517632

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

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	500.7	3.2
10°-20°	1425.9	9.1
20°-30°	2121.5	13.5
30°-40°	2550.1	16.2
40°-50°	2684.1	17.1
50°-60°	2490.5	15.9
60°-70°	1969.2	12.5
70°-80°	1202.9	7.7
80°-90°	524.1	3.3
90°-100°	163.1	1.0
100°-110°	36.6	0.2
110°-120°	14.7	0.1
120°-130°	8.3	0.1
130°-140°	2.2	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°	4048.1	25.8
0°-40°	6598.2	42.0
0°-60°	11772.8	75.0
0°-90°	15468.9	98.6
90°-120°	214.5	1.4
90°-150°	225.0	1.4
90°-180°	225.0	1.4
0°-180°	15694.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5210	5210	5210	5210	5210	
5°	5197	5186	5204	5263	5278	493
15°	4919	5108	5158	4987	4990	1386
25°	4437	4720	4505	4640	4715	2037
35°	3785	3890	3949	4308	4454	2366
45°	3094	3107	3363	3896	4041	2385
55°	2278	2316	2683	3270	3530	2047
65°	1442	1488	1890	2501	2728	1428
75°	546	723	1054	1619	1721	595
85°	49	170	411	797	915	76
90°	1	51	215	505	595	2
95°	1	13	94	277	338	1
105°	1	7	19	54	76	1
115°	1	4	15	24	26	2
125°	1	2	6	16	22	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: P517632

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

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	5209.6	5209.6	5209.6	5209.6	5209.6
2.5°	5215.9	5202.1	5173.5	5201.1	5208.5
5°	5196.8	5186.2	5204.2	5262.6	5277.5
7.5°	5153.3	5193.6	5241.4	5347.5	5381.5
10°	5088.6	5165.0	5308.2	5398.5	5363.4
12.5°	5010.0	5139.5	5331.6	5155.4	5073.7
15°	4918.8	5107.7	5157.6	4986.7	4989.9
17.5°	4811.6	5081.1	4927.3	4923.0	4892.2
20°	4695.9	4992.0	4788.2	4779.8	4746.9
22.5°	4571.8	4874.2	4665.1	4648.2	4737.3
25°	4437.0	4720.3	4504.9	4639.7	4715.0
27.5°	4268.2	4518.7	4371.2	4562.2	4656.7
30°	4097.4	4310.7	4234.3	4500.7	4668.3
32.5°	3937.1	4093.1	4121.8	4477.3	4504.9
35°	3785.4	3890.5	3948.8	4307.5	4454.0
37.5°	3618.8	3647.4	3802.4	4236.4	4377.6
40°	3449.0	3430.9	3679.3	4119.7	4314.9
42.5°	3266.5	3260.1	3548.7	4061.3	4158.9
45°	3093.5	3107.3	3363.0	3895.8	4041.1
47.5°	2916.2	2934.3	3186.9	3714.3	3894.7
50°	2710.4	2733.7	3029.8	3553.0	3785.4
52.5°	2487.5	2532.1	2877.0	3400.2	3634.7
55°	2278.5	2315.6	2682.8	3269.6	3529.6
57.5°	2087.4	2109.7	2482.2	3105.1	3301.5
60°	1899.6	1904.9	2293.3	2922.6	3110.5
62.5°	1684.2	1693.7	2099.1	2707.2	2958.7
65°	1442.2	1487.8	1890.0	2501.3	2728.4
67.5°	1216.2	1295.8	1676.7	2312.4	2431.3
70°	974.2	1109.0	1467.7	2090.6	2174.5
72.5°	752.4	910.5	1253.3	1842.3	1960.1
75°	545.5	722.7	1053.8	1619.4	1721.3
77.5°	367.2	547.6	867.0	1373.2	1508.0
80°	219.7	400.1	700.4	1145.1	1296.8
82.5°	112.5	268.5	543.3	960.4	1096.2
85°	48.8	169.8	410.7	797.0	914.8
87.5°	13.8	96.6	302.4	644.2	743.9
90°	1.1	50.9	215.4	505.1	595.3
92.5°	1.1	24.4	151.8	382.0	451.0
95°	1.1	12.7	94.4	277.0	338.5
97.5°	1.1	7.4	57.3	196.3	248.3
100°	1.1	6.4	34.0	130.5	177.2
102.5°	1.1	7.4	23.3	82.8	115.7
105°	1.1	7.4	19.1	54.1	76.4
107.5°	2.1	7.4	17.0	40.3	53.1
110°	1.1	6.4	18.0	30.8	41.4

TEST NUMBER: P517632

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

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	2.1	5.3	17.0	25.5	30.8
115°	1.1	4.2	14.9	24.4	25.5
117.5°	2.1	3.2	11.7	24.4	25.5
120°	2.1	2.1	9.6	23.3	26.5
122.5°	2.1	2.1	7.4	21.2	25.5
125°	1.1	2.1	6.4	15.9	22.3
127.5°	2.1	2.1	5.3	12.7	17.0
130°	2.1	2.1	4.2	9.6	12.7
132.5°	2.1	2.1	3.2	7.4	9.6
135°	2.1	2.1	2.1	5.3	7.4
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)