

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: P517698

Luminaire Tested: HVL12-8-LD4-3LO-35-UNV-O-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: P517698
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL12-8-LD4-3LO-35-UNV-O-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: 13519.0 lumens
Efficiency: N/A
Efficacy: 97.7 lumens/watt
Spacing Criteria (0/90/45): 1.25 / 1.27 / 1.38
Luminous Opening: Rectangular w/ Sides (W: 1' x L: 8' x H: 0.17')
CIE Type: Direct

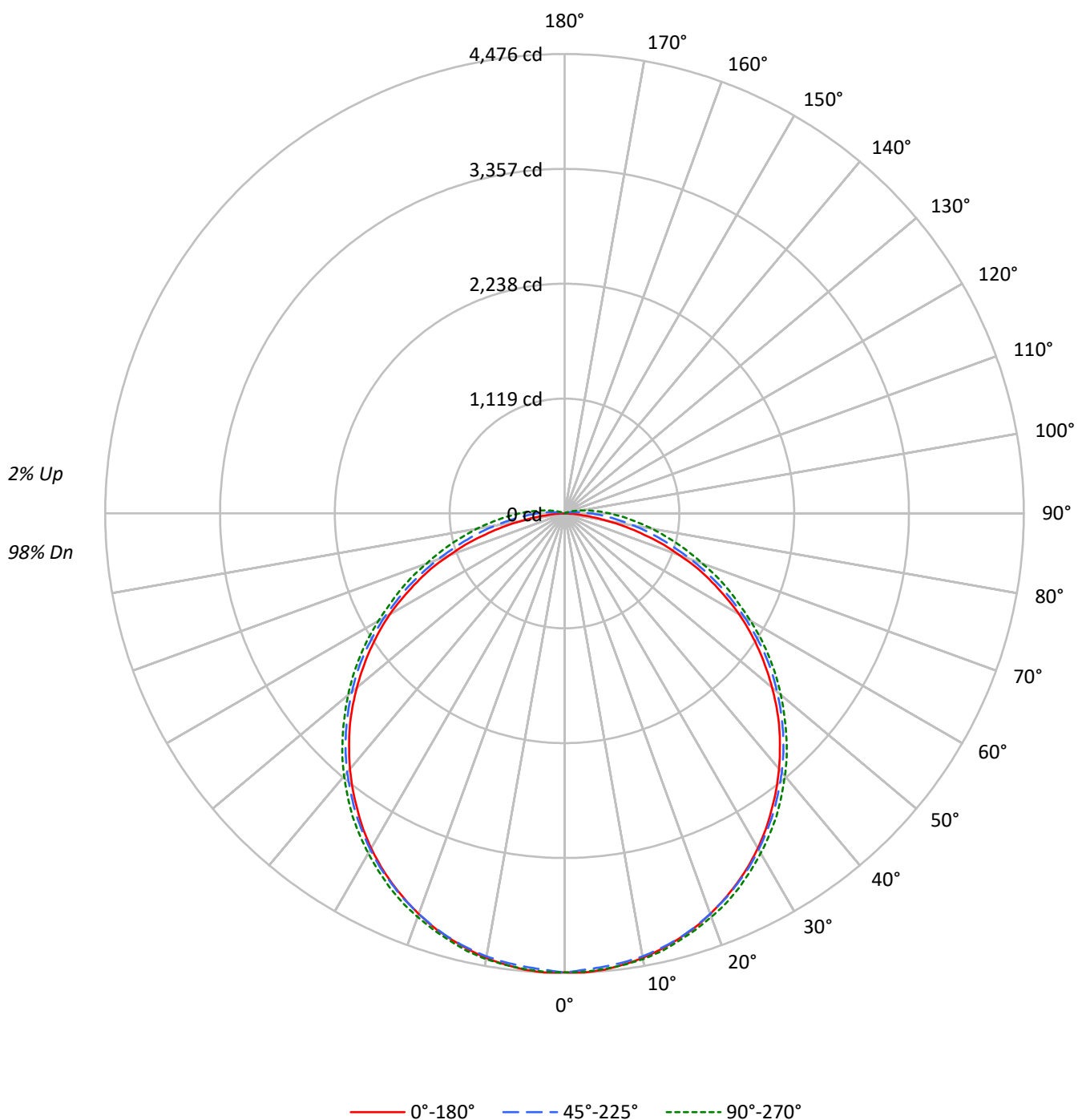
Input Watts (W): 138.4
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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

TEST NUMBER: P517698

CATALOG NUMBER: HVL12-8-LD4-3LO-35-UNV-O-EDD

Luminous Intensity Polar Plot



TEST NUMBER: P517698

CATALOG NUMBER: HVL12-8-LD4-3LO-35-UNV-O-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			98
1	108	102	98	94	105	100	96	92	95	92	89	91	88	86	87	85	83			81
2	98	89	82	76	95	87	80	75	83	77	73	79	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	52	62	56	51	60	54	50			47
5	75	61	52	45	72	60	52	45	58	50	44	56	49	44	54	48	43			41
6	69	55	46	40	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°	6016	6016	6016
5°	6015	5919	5930
10°	5986	5850	5852
15°	5945	5768	5748
20°	5902	5671	5647
25°	5847	5571	5544
30°	5783	5461	5420
35°	5699	5337	5298
40°	5613	5206	5149
45°	5521	5061	4985
50°	5397	4889	4808
55°	5266	4698	4609
60°	5109	4438	4371
65°	4841	4144	4141
70°	4448	3790	3868
75°	3879	3402	3642
80°	3009	3039	3472
85°	1734	2710	3377

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 5521 cd/sqm

TEST NUMBER: P517698

CATALOG NUMBER: HVL12-8-LD4-3LO-35-UNV-O-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	423.1	3.1
10°-20°	1213.7	9.0
20°-30°	1841.6	13.6
30°-40°	2226.8	16.5
40°-50°	2323.5	17.2
50°-60°	2124.3	15.7
60°-70°	1656.0	12.2
70°-80°	1035.9	7.7
80°-90°	470.5	3.5
90°-100°	157.7	1.2
100°-110°	39.6	0.3
110°-120°	6.2	0.0
120°-130°	0.0	0.0
130°-140°	0.0	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°	3478.4	25.7
0°-40°	5705.2	42.2
0°-60°	10153.0	75.1
0°-90°	13315.5	98.5
90°-120°	203.5	1.5
90°-150°	203.5	1.5
90°-180°	204.0	1.5
0°-180°	13519.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4471	4471	4471	4471	4471	
5°	4462	4453	4433	4454	4454	424
15°	4292	4300	4288	4312	4311	1212
25°	3977	3980	3984	4018	4024	1833
35°	3520	3536	3551	3587	3602	2203
45°	2962	2988	3012	3042	3057	2282
55°	2312	2339	2382	2417	2433	2065
65°	1588	1616	1672	1738	1766	1572
75°	804	854	978	1095	1136	857
85°	139	257	442	584	636	176
90°	1	96	260	391	438	6
95°	1	25	135	244	282	1
105°	2	3	22	65	88	2
115°	3	3	4	12	17	2
125°	0	0	0	0	0	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

TEST NUMBER: P517698

CATALOG NUMBER: HVL12-8-LD4-3LO-35-UNV-O-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4471.3	4471.3	4471.3	4471.3	4471.3
2.5°	4476.5	4470.2	4450.2	4470.2	4469.2
5°	4461.8	4453.3	4433.3	4454.4	4454.4
7.5°	4432.3	4429.1	4411.2	4435.4	4435.4
10°	4397.5	4396.4	4381.7	4408.0	4409.1
12.5°	4349.0	4353.2	4339.5	4364.8	4368.0
15°	4292.1	4299.5	4287.9	4312.1	4311.1
17.5°	4229.9	4234.1	4225.7	4253.1	4252.0
20°	4152.9	4158.2	4151.9	4180.4	4183.5
22.5°	4067.6	4074.9	4073.9	4103.4	4111.8
25°	3976.9	3980.1	3984.3	4018.0	4024.4
27.5°	3876.8	3882.1	3889.4	3920.0	3926.3
30°	3767.2	3775.6	3784.0	3815.7	3824.1
32.5°	3651.2	3659.7	3670.2	3711.3	3715.5
35°	3520.5	3536.3	3551.1	3586.9	3601.7
37.5°	3389.8	3409.8	3423.5	3461.5	3473.1
40°	3251.7	3271.8	3293.9	3334.0	3341.3
42.5°	3107.3	3130.5	3156.9	3192.7	3205.4
45°	2961.9	2988.2	3012.5	3042.0	3056.7
47.5°	2804.8	2831.2	2860.7	2894.4	2903.9
50°	2642.5	2673.1	2704.7	2736.3	2753.2
52.5°	2476.0	2512.8	2548.7	2582.4	2598.2
55°	2311.5	2338.9	2382.1	2416.9	2432.7
57.5°	2140.8	2164.0	2203.0	2259.9	2268.3
60°	1966.9	1987.9	2028.0	2074.4	2093.3
62.5°	1775.0	1803.5	1845.6	1904.7	1921.5
65°	1588.4	1615.9	1671.7	1738.1	1765.5
67.5°	1408.2	1417.7	1489.4	1558.9	1603.2
70°	1195.3	1231.1	1314.4	1399.8	1433.5
72.5°	1011.9	1047.7	1139.4	1239.6	1281.7
75°	804.2	853.8	978.2	1095.2	1136.3
77.5°	621.9	676.7	830.6	948.6	996.1
80°	434.3	519.6	687.2	820.0	871.7
82.5°	273.0	378.4	557.6	696.7	742.0
85°	139.1	257.2	441.6	583.9	635.6
87.5°	36.9	166.5	343.6	479.6	532.3
90°	1.1	95.9	260.3	391.1	438.5
92.5°	1.1	53.8	193.9	310.9	359.4
95°	1.1	25.3	134.9	244.5	282.5
97.5°	1.1	10.5	92.8	184.5	222.4
100°	1.1	5.3	59.0	133.9	166.5
102.5°	2.1	3.2	36.9	95.9	122.3
105°	2.1	3.2	22.1	65.4	87.5
107.5°	2.1	3.2	12.6	44.3	60.1
110°	3.2	3.2	7.4	27.4	40.1

TEST NUMBER: P517698

CATALOG NUMBER: HVL12-8-LD4-3LO-35-UNV-O-EDD

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	3.2	3.2	4.2	17.9	26.4
115°	3.2	3.2	4.2	11.6	16.9
117.5°	0.0	0.0	0.0	0.0	0.0
120°	0.0	0.0	0.0	0.0	0.0
122.5°	0.0	0.0	0.0	0.0	0.0
125°	0.0	0.0	0.0	0.0	0.0
127.5°	0.0	0.0	0.0	0.0	0.0
130°	0.0	0.0	0.0	0.0	0.0
132.5°	0.0	0.0	0.0	0.0	0.0
135°	0.0	0.0	0.0	0.0	0.0
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)