

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: P518296

Luminaire Tested: HVL8-8-LD4-3STD-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: P518296
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-8-LD4-3STD-50-UNV-C-EDD
Description: 8 FOOT, 8 INCH WIDE, HVL LED LUMINAIRE, WITH 5000K, 80 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 19672.0 lumens
Efficiency: N/A
Efficacy: 103.0 lumens/watt
Spacing Criteria (0/90/45): 1.18 / 1.32 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.67' x L: 8' x H: 0.17')
CIE Type: Direct

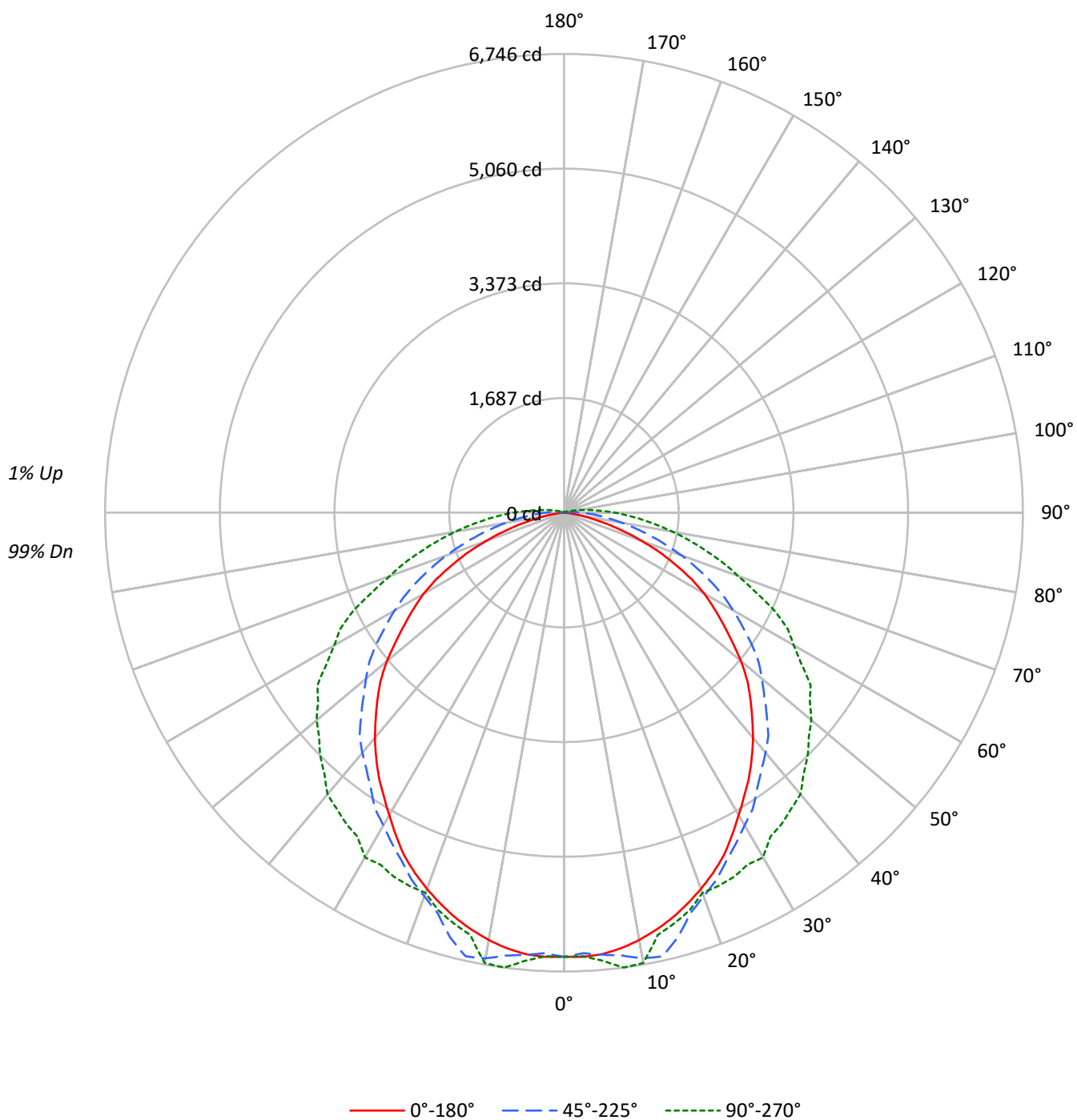
Input Watts (W): 191
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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: P518296

CATALOG NUMBER: HVL8-8-LD4-3STD-50-UNV-C-EDD

Luminous Intensity Polar Plot



TEST NUMBER: P518296

CATALOG NUMBER: HVL8-8-LD4-3STD-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°	13179	13179	13179
5°	13173	12998	13115
10°	13024	13190	13196
15°	12811	12849	12248
20°	12547	12051	11713
25°	12266	11544	11787
30°	11827	11137	11917
35°	11522	10753	11706
40°	11194	10468	11779
45°	10842	10098	11566
50°	10409	9708	11478
55°	9759	9291	11471
60°	9276	8713	10982
65°	8264	8020	10631
70°	6815	7113	9534
75°	4947	6006	8703
80°	2863	4891	7813
85°	1145	3738	6882

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 45°

Luminance: 11566 cd/sqm

TEST NUMBER: P518296

CATALOG NUMBER: HVL8-8-LD4-3STD-50-UNV-C-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	627.6	3.2
10°-20°	1787.3	9.1
20°-30°	2659.3	13.5
30°-40°	3196.4	16.2
40°-50°	3364.4	17.1
50°-60°	3121.8	15.9
60°-70°	2468.3	12.5
70°-80°	1507.7	7.7
80°-90°	656.9	3.3
90°-100°	204.5	1.0
100°-110°	45.9	0.2
110°-120°	18.5	0.1
120°-130°	10.4	0.1
130°-140°	2.8	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°	5074.2	25.8
0°-40°	8270.6	42.0
0°-60°	14756.9	75.0
0°-90°	19389.9	98.6
90°-120°	268.9	1.4
90°-150°	282.1	1.4
90°-180°	282.0	1.4
0°-180°	19672.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	6530	6530	6530	6530	6530	
5°	6514	6501	6523	6596	6615	617
15°	6166	6402	6465	6251	6255	1737
25°	5562	5917	5647	5816	5910	2553
35°	4745	4877	4950	5399	5583	2966
45°	3878	3895	4216	4883	5066	2989
55°	2856	2902	3363	4098	4424	2566
65°	1808	1865	2369	3135	3420	1790
75°	684	906	1321	2030	2158	746
85°	61	213	515	999	1147	95
90°	1	64	270	633	746	3
95°	1	16	118	347	424	1
105°	1	9	24	68	96	2
115°	1	5	19	31	32	2
125°	1	3	8	20	28	2
135°	3	3	3	7	9	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: P518296

CATALOG NUMBER: HVL8-8-LD4-3STD-50-UNV-C-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	6530.0	6530.0	6530.0	6530.0	6530.0
2.5°	6538.0	6520.7	6484.8	6519.4	6528.7
5°	6514.1	6500.8	6523.4	6596.5	6615.2
7.5°	6459.5	6510.1	6569.9	6703.0	6745.5
10°	6378.4	6474.2	6653.7	6766.8	6722.9
12.5°	6280.0	6442.2	6683.0	6462.2	6359.8
15°	6165.6	6402.3	6464.9	6250.7	6254.7
17.5°	6031.2	6369.1	6176.2	6170.9	6132.3
20°	5886.2	6257.3	6001.9	5991.3	5950.1
22.5°	5730.6	6109.7	5847.6	5826.3	5938.1
25°	5561.6	5916.8	5646.8	5815.7	5910.2
27.5°	5350.1	5664.1	5479.2	5718.6	5837.0
30°	5136.0	5403.3	5307.6	5641.4	5851.6
32.5°	4935.1	5130.6	5166.6	5612.2	5646.8
35°	4744.9	4876.6	4949.7	5399.3	5582.9
37.5°	4536.0	4572.0	4766.2	5310.2	5487.1
40°	4323.2	4300.6	4611.9	5163.9	5408.7
42.5°	4094.4	4086.4	4448.2	5090.7	5213.1
45°	3877.6	3894.9	4215.5	4883.2	5065.5
47.5°	3655.4	3678.0	3994.6	4655.8	4881.9
50°	3397.4	3426.6	3797.8	4453.6	4744.9
52.5°	3118.0	3173.9	3606.2	4262.0	4556.0
55°	2856.0	2902.5	3362.8	4098.4	4424.3
57.5°	2616.5	2644.5	3111.4	3892.2	4138.3
60°	2381.1	2387.7	2874.6	3663.4	3898.9
62.5°	2111.1	2123.0	2631.2	3393.4	3708.6
65°	1807.8	1865.0	2369.1	3135.3	3420.0
67.5°	1524.4	1624.2	2101.7	2898.5	3047.5
70°	1221.1	1390.1	1839.7	2620.5	2725.6
72.5°	943.1	1141.3	1571.0	2309.3	2456.9
75°	683.7	905.9	1320.9	2029.9	2157.6
77.5°	460.3	686.4	1086.8	1721.3	1890.2
80°	275.4	501.5	877.9	1435.3	1625.5
82.5°	141.0	336.5	681.1	1203.8	1374.1
85°	61.2	212.8	514.8	999.0	1146.6
87.5°	17.3	121.0	379.1	807.4	932.5
90°	1.3	63.9	270.0	633.2	746.3
92.5°	1.3	30.6	190.2	478.9	565.3
95°	1.3	16.0	118.4	347.2	424.3
97.5°	1.3	9.3	71.8	246.1	311.3
100°	1.3	8.0	42.6	163.6	222.1
102.5°	1.3	9.3	29.3	103.8	145.0
105°	1.3	9.3	23.9	67.8	95.8
107.5°	2.7	9.3	21.3	50.5	66.5
110°	1.3	8.0	22.6	38.6	51.9

TEST NUMBER: P518296

CATALOG NUMBER: HVL8-8-LD4-3STD-50-UNV-C-EDD

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	2.7	6.7	21.3	31.9	38.6
115°	1.3	5.3	18.6	30.6	31.9
117.5°	2.7	4.0	14.6	30.6	31.9
120°	2.7	2.7	12.0	29.3	33.3
122.5°	2.7	2.7	9.3	26.6	31.9
125°	1.3	2.7	8.0	20.0	27.9
127.5°	2.7	2.7	6.7	16.0	21.3
130°	2.7	2.7	5.3	12.0	16.0
132.5°	2.7	2.7	4.0	9.3	12.0
135°	2.7	2.7	2.7	6.7	9.3
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)