

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: P517760

Luminaire Tested: HVL8-1-LD4-1STD-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: P517760
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-1-LD4-1STD-35-UNV-C-EDD
Description: 1 FOOT, 8 INCH WIDE, HVL LED LUMINAIRE, WITH 3500K, 80 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 919.0 lumens
Efficiency: N/A
Efficacy: 112.1 lumens/watt
Spacing Criteria (0/90/45): 1.18 / 1.32 / 1.36
Luminous Opening: Rectangular w/ Sides (W: 0.67' x L: 1' x H: 0.17')
CIE Type: Direct

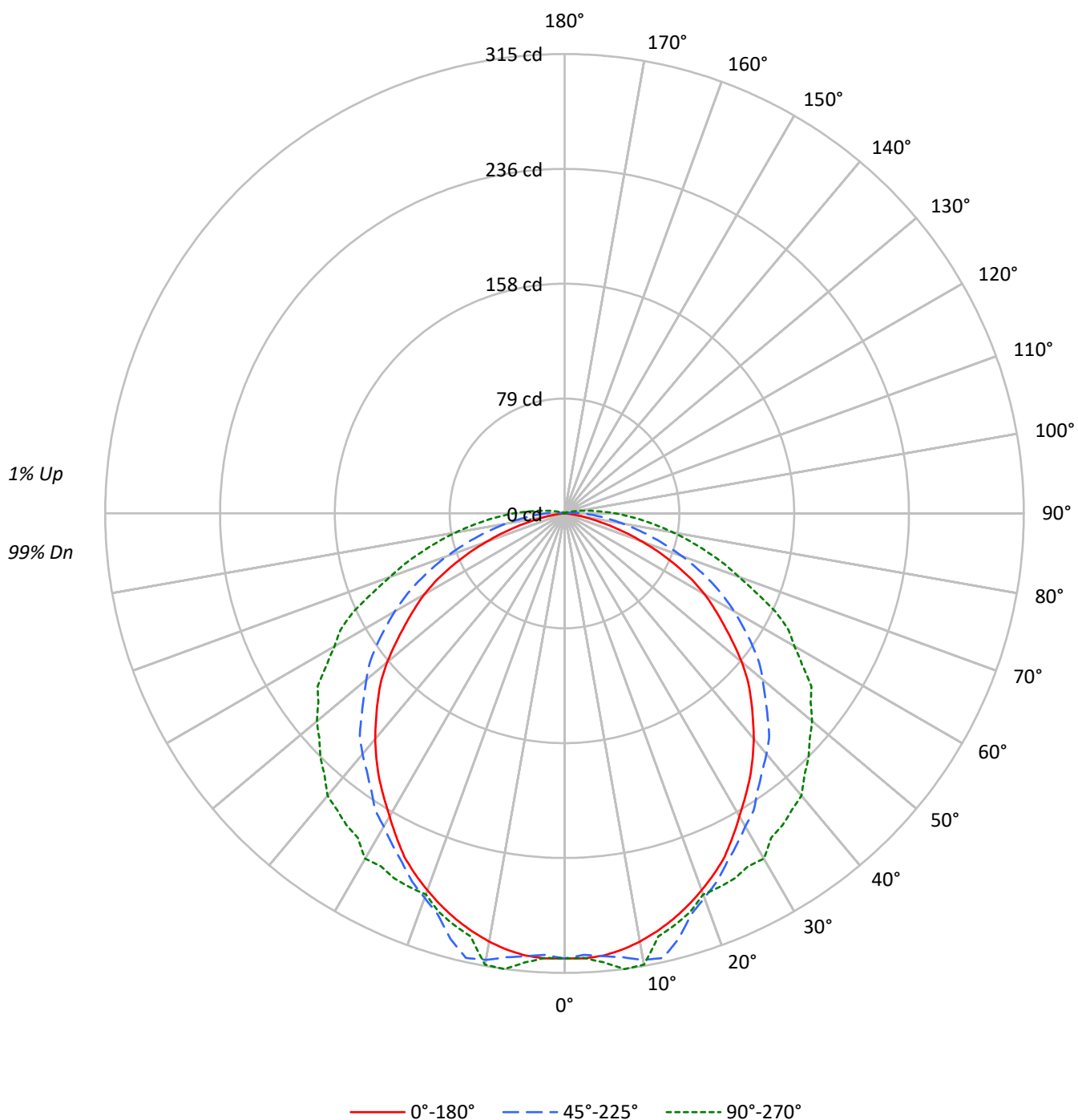
Input Watts (W): 8.2
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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: P517760

CATALOG NUMBER: HVL8-1-LD4-1STD-35-UNV-C-EDD

Luminous Intensity Polar Plot



TEST NUMBER: P517760

CATALOG NUMBER: HVL8-1-LD4-1STD-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	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°	4926	4926	4926
5°	4861	4814	4901
10°	4746	4844	4932
15°	4608	4679	4578
20°	4455	4351	4378
25°	4295	4132	4405
30°	4080	3950	4454
35°	3913	3778	4375
40°	3735	3640	4402
45°	3544	3473	4322
50°	3326	3298	4290
55°	3033	3112	4287
60°	2786	2871	4103
65°	2378	2592	3974
70°	1846	2241	3562
75°	1227	1833	3253
80°	617	1427	2918
85°	185	1018	2574

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 45°

Luminance: 4322 cd/sqm

TEST NUMBER: P517760

CATALOG NUMBER: HVL8-1-LD4-1STD-35-UNV-C-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	29.3	3.2
10°-20°	83.5	9.1
20°-30°	124.2	13.5
30°-40°	149.3	16.2
40°-50°	157.2	17.1
50°-60°	145.8	15.9
60°-70°	115.3	12.5
70°-80°	70.4	7.7
80°-90°	30.7	3.3
90°-100°	9.6	1.0
100°-110°	2.1	0.2
110°-120°	0.9	0.1
120°-130°	0.5	0.1
130°-140°	0.1	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°	237.0	25.8
0°-40°	386.4	42.0
0°-60°	689.4	75.0
0°-90°	905.8	98.6
90°-120°	12.6	1.4
90°-150°	13.2	1.4
90°-180°	13.0	1.4
0°-180°	919.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	305	305	305	305	305	
5°	304	304	305	308	309	29
15°	288	299	302	292	292	81
25°	260	276	264	272	276	119
35°	222	228	231	252	261	139
45°	181	182	197	228	237	140
55°	133	136	157	192	207	120
65°	84	87	111	146	160	84
75°	32	42	62	95	101	35
85°	3	10	24	47	54	4
90°	0	3	13	30	35	0
95°	0	1	6	16	20	0
105°	0	0	1	3	4	0
115°	0	0	1	1	2	0
125°	0	0	0	1	1	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: P517760

CATALOG NUMBER: HVL8-1-LD4-1STD-35-UNV-C-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	305.1	305.1	305.1	305.1	305.1
2.5°	305.4	304.6	302.9	304.6	305.0
5°	304.3	303.7	304.7	308.2	309.0
7.5°	301.8	304.1	306.9	313.1	315.1
10°	298.0	302.4	310.8	316.1	314.1
12.5°	293.4	301.0	312.2	301.9	297.1
15°	288.0	299.1	302.0	292.0	292.2
17.5°	281.8	297.5	288.5	288.3	286.5
20°	275.0	292.3	280.4	279.9	278.0
22.5°	267.7	285.4	273.2	272.2	277.4
25°	259.8	276.4	263.8	271.7	276.1
27.5°	249.9	264.6	256.0	267.2	272.7
30°	239.9	252.4	247.9	263.5	273.4
32.5°	230.5	239.7	241.4	262.2	263.8
35°	221.7	227.8	231.2	252.2	260.8
37.5°	211.9	213.6	222.7	248.1	256.3
40°	202.0	200.9	215.4	241.2	252.7
42.5°	191.3	190.9	207.8	237.8	243.5
45°	181.1	182.0	196.9	228.1	236.6
47.5°	170.8	171.8	186.6	217.5	228.1
50°	158.7	160.1	177.4	208.1	221.7
52.5°	145.7	148.3	168.5	199.1	212.8
55°	133.4	135.6	157.1	191.5	206.7
57.5°	122.2	123.5	145.4	181.8	193.3
60°	111.2	111.5	134.3	171.1	182.1
62.5°	98.6	99.2	122.9	158.5	173.3
65°	84.5	87.1	110.7	146.5	159.8
67.5°	71.2	75.9	98.2	135.4	142.4
70°	57.0	64.9	85.9	122.4	127.3
72.5°	44.1	53.3	73.4	107.9	114.8
75°	31.9	42.3	61.7	94.8	100.8
77.5°	21.5	32.1	50.8	80.4	88.3
80°	12.9	23.4	41.0	67.1	75.9
82.5°	6.6	15.7	31.8	56.2	64.2
85°	2.9	9.9	24.0	46.7	53.6
87.5°	0.8	5.7	17.7	37.7	43.6
90°	0.1	3.0	12.6	29.6	34.9
92.5°	0.1	1.4	8.9	22.4	26.4
95°	0.1	0.7	5.5	16.2	19.8
97.5°	0.1	0.4	3.4	11.5	14.5
100°	0.1	0.4	2.0	7.6	10.4
102.5°	0.1	0.4	1.4	4.8	6.8
105°	0.1	0.4	1.1	3.2	4.5
107.5°	0.1	0.4	1.0	2.4	3.1
110°	0.1	0.4	1.1	1.8	2.4

TEST NUMBER: P517760

CATALOG NUMBER: HVL8-1-LD4-1STD-35-UNV-C-EDD

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.1	0.3	1.0	1.5	1.8
115°	0.1	0.2	0.9	1.4	1.5
117.5°	0.1	0.2	0.7	1.4	1.5
120°	0.1	0.1	0.6	1.4	1.6
122.5°	0.1	0.1	0.4	1.2	1.5
125°	0.1	0.1	0.4	0.9	1.3
127.5°	0.1	0.1	0.3	0.7	1.0
130°	0.1	0.1	0.2	0.6	0.7
132.5°	0.1	0.1	0.2	0.4	0.6
135°	0.1	0.1	0.1	0.3	0.4
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)