

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: P517794

Luminaire Tested: HVL8-1-LD4-2LO-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: P517794
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-1-LD4-2LO-35-UNV-O-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: 1227.0 lumens
Efficiency: N/A
Efficacy: 106.7 lumens/watt
Spacing Criteria (0/90/45): 1.25 / 1.27 / 1.38
Luminous Opening: Rectangular w/ Sides (W: 0.67' x L: 1' x H: 0.17')
CIE Type: Direct

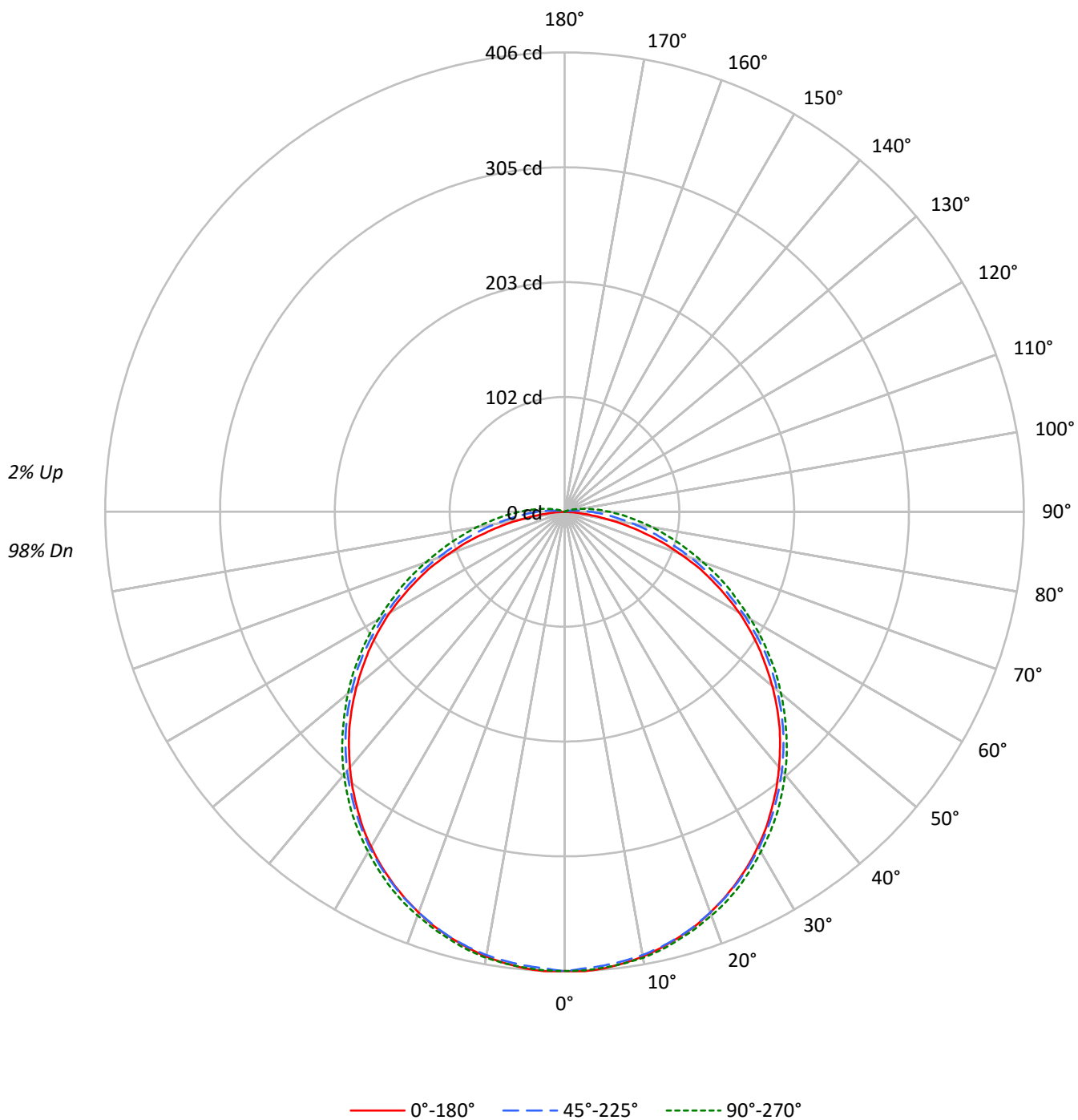
Input Watts (W): 11.5
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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: P517794

CATALOG NUMBER: HVL8-1-LD4-2LO-35-UNV-O-EDD

Luminous Intensity Polar Plot



TEST NUMBER: P517794

CATALOG NUMBER: HVL8-1-LD4-2LO-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°	6552	6552	6552
5°	6470	6358	6412
10°	6356	6198	6284
15°	6234	6030	6130
20°	6105	5847	5980
25°	5966	5664	5828
30°	5815	5471	5655
35°	5639	5266	5483
40°	5457	5053	5284
45°	5261	4822	5067
50°	5025	4564	4836
55°	4770	4283	4580
60°	4473	3936	4281
65°	4058	3551	3984
70°	3513	3112	3641
75°	2807	2638	3327
80°	1883	2172	3042
85°	803	1701	2771

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 5261 cd/sqm

TEST NUMBER: P517794

CATALOG NUMBER: HVL8-1-LD4-2LO-35-UNV-O-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	38.4	3.1
10°-20°	110.2	9.0
20°-30°	167.1	13.6
30°-40°	202.1	16.5
40°-50°	210.9	17.2
50°-60°	192.8	15.7
60°-70°	150.3	12.3
70°-80°	94.0	7.7
80°-90°	42.7	3.5
90°-100°	14.3	1.2
100°-110°	3.6	0.3
110°-120°	0.6	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°	315.7	25.7
0°-40°	517.8	42.2
0°-60°	921.5	75.1
0°-90°	1208.5	98.5
90°-120°	18.5	1.5
90°-150°	18.5	1.5
90°-180°	18.0	1.5
0°-180°	1227.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	406	406	406	406	406	
5°	405	404	402	404	404	38
15°	390	390	389	391	391	110
25°	361	361	362	365	365	166
35°	320	321	322	326	327	200
45°	269	271	273	276	277	207
55°	210	212	216	219	221	187
65°	144	147	152	158	160	143
75°	73	78	89	99	103	78
85°	13	23	40	53	58	16
90°	0	9	24	36	40	0
95°	0	2	12	22	26	0
105°	0	0	2	6	8	0
115°	0	0	0	1	2	0
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: P517794

CATALOG NUMBER: HVL8-1-LD4-2LO-35-UNV-O-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	405.8	405.8	405.8	405.8	405.8
2.5°	406.3	405.7	403.9	405.7	405.6
5°	405.0	404.2	402.4	404.3	404.3
7.5°	402.3	402.0	400.4	402.6	402.6
10°	399.1	399.0	397.7	400.1	400.2
12.5°	394.7	395.1	393.9	396.2	396.4
15°	389.6	390.2	389.2	391.4	391.3
17.5°	383.9	384.3	383.5	386.0	385.9
20°	376.9	377.4	376.8	379.4	379.7
22.5°	369.2	369.8	369.8	372.4	373.2
25°	360.9	361.2	361.6	364.7	365.3
27.5°	351.9	352.3	353.0	355.8	356.4
30°	341.9	342.7	343.4	346.3	347.1
32.5°	331.4	332.2	333.1	336.8	337.2
35°	319.5	321.0	322.3	325.6	326.9
37.5°	307.7	309.5	310.7	314.2	315.2
40°	295.1	296.9	299.0	302.6	303.3
42.5°	282.0	284.1	286.5	289.8	290.9
45°	268.8	271.2	273.4	276.1	277.4
47.5°	254.6	257.0	259.6	262.7	263.6
50°	239.8	242.6	245.5	248.4	249.9
52.5°	224.7	228.1	231.3	234.4	235.8
55°	209.8	212.3	216.2	219.4	220.8
57.5°	194.3	196.4	199.9	205.1	205.9
60°	178.5	180.4	184.1	188.3	190.0
62.5°	161.1	163.7	167.5	172.9	174.4
65°	144.2	146.7	151.7	157.8	160.2
67.5°	127.8	128.7	135.2	141.5	145.5
70°	108.5	111.7	119.3	127.0	130.1
72.5°	91.8	95.1	103.4	112.5	116.3
75°	73.0	77.5	88.8	99.4	103.1
77.5°	56.4	61.4	75.4	86.1	90.4
80°	39.4	47.2	62.4	74.4	79.1
82.5°	24.8	34.3	50.6	63.2	67.3
85°	12.6	23.3	40.1	53.0	57.7
87.5°	3.3	15.1	31.2	43.5	48.3
90°	0.1	8.7	23.6	35.5	39.8
92.5°	0.1	4.9	17.6	28.2	32.6
95°	0.1	2.3	12.2	22.2	25.6
97.5°	0.1	1.0	8.4	16.7	20.2
100°	0.1	0.5	5.4	12.1	15.1
102.5°	0.2	0.3	3.3	8.7	11.1
105°	0.2	0.3	2.0	5.9	7.9
107.5°	0.2	0.3	1.1	4.0	5.5
110°	0.3	0.3	0.7	2.5	3.6

TEST NUMBER: P517794

CATALOG NUMBER: HVL8-1-LD4-2LO-35-UNV-O-EDD

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.3	0.3	0.4	1.6	2.4
115°	0.3	0.3	0.4	1.1	1.5
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)