

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: P517798

Luminaire Tested: HVL8-1-LD4-2LO-40-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: P517798
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-1-LD4-2LO-40-UNV-O-EDD
Description: 1 FOOT, 8 INCH WIDE, HVL LED LUMINAIRE, WITH 4000K, 80 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1239.1 lumens
Efficiency: N/A
Efficacy: 107.7 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

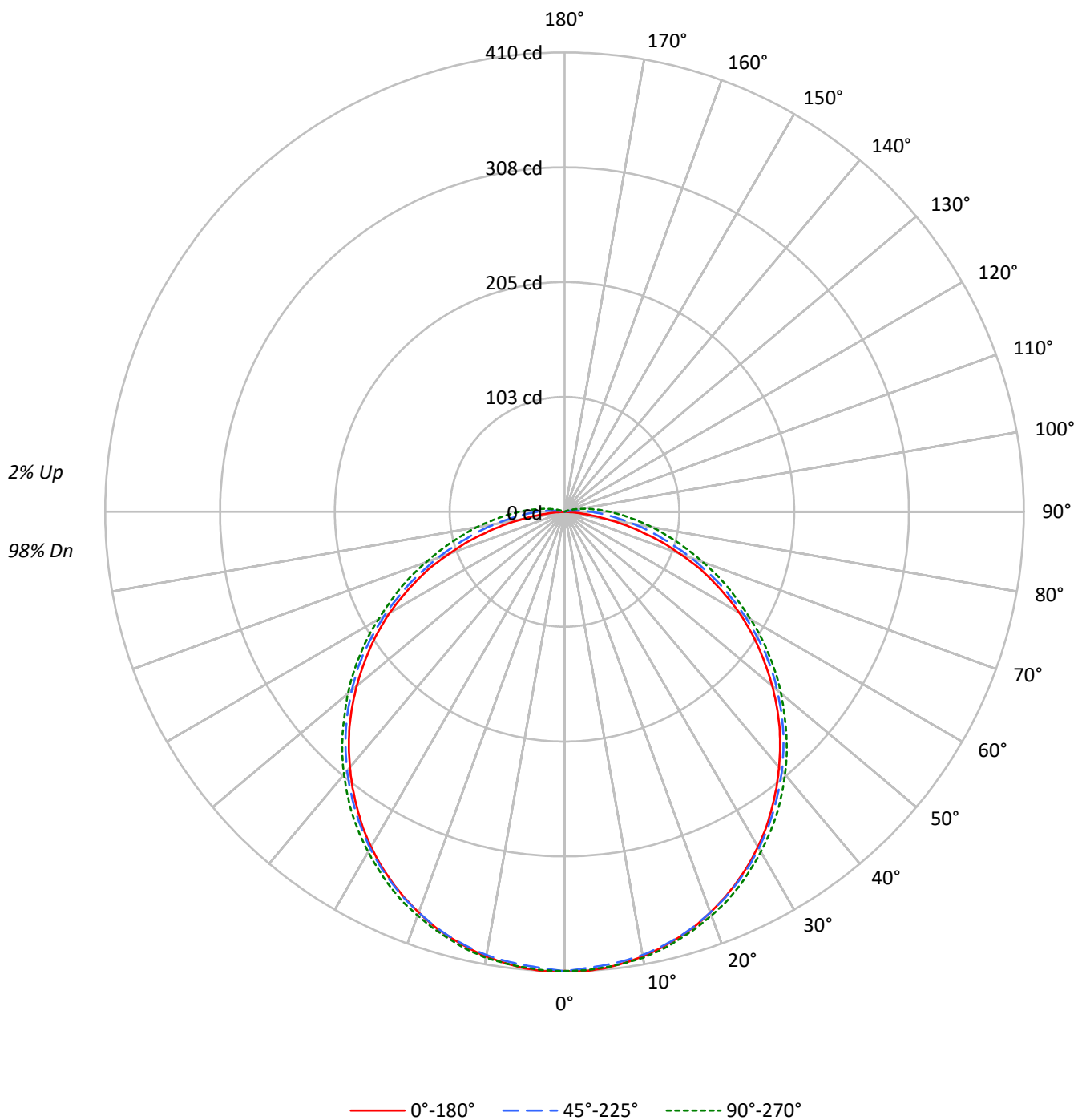
Input Watts (W): 11.5
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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: P517798

CATALOG NUMBER: HVL8-1-LD4-2LO-40-UNV-O-EDD

Luminous Intensity Polar Plot



TEST NUMBER: P517798

CATALOG NUMBER: HVL8-1-LD4-2LO-40-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
RCR																	
0	119	119	119	119	116	116	116	116	110	110	110		105	105	105		101
1	108	102	98	94	105	100	96	92	95	92	89		91	88	86		87
2	98	89	82	76	95	87	80	75	83	77	73		79	75	71		76
3	89	78	69	63	86	76	68	62	73	66	61		70	64	59		67
4	81	69	60	53	79	67	59	52	65	57	52		62	56	51		60
5	75	61	52	45	72	60	52	45	58	50	44		56	49	44		54
6	69	55	46	40	67	54	46	39	52	45	39		50	44	38		49
7	64	50	41	35	62	49	41	35	47	40	34		46	39	34		44
8	59	46	37	31	58	45	37	31	43	36	31		42	35	30		41
9	55	42	34	28	54	41	33	28	40	33	28		39	32	27		38
10	52	39	31	25	51	38	30	25	37	30	25		36	29	25		35

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	6617	6617	6617
5°	6532	6420	6474
10°	6419	6259	6345
15°	6295	6088	6190
20°	6165	5904	6038
25°	6025	5720	5884
30°	5872	5526	5710
35°	5696	5318	5537
40°	5510	5102	5334
45°	5314	4869	5116
50°	5075	4608	4882
55°	4816	4325	4626
60°	4518	3974	4324
65°	4098	3586	4024
70°	3545	3143	3677
75°	2834	2662	3359
80°	1902	2193	3072
85°	816	1718	2799

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 5314 cd/sqm

TEST NUMBER: P517798

CATALOG NUMBER: HVL8-1-LD4-2LO-40-UNV-O-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	38.8	3.1
10°-20°	111.2	9.0
20°-30°	168.8	13.6
30°-40°	204.1	16.5
40°-50°	213.0	17.2
50°-60°	194.7	15.7
60°-70°	151.8	12.2
70°-80°	94.9	7.7
80°-90°	43.1	3.5
90°-100°	14.5	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°	318.8	25.7
0°-40°	522.9	42.2
0°-60°	930.5	75.1
0°-90°	1220.4	98.5
90°-120°	18.7	1.5
90°-150°	18.7	1.5
90°-180°	19.0	1.5
0°-180°	1239.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	410	410	410	410	410	
5°	409	408	406	408	408	39
15°	393	394	393	395	395	111
25°	364	365	365	368	369	168
35°	323	324	326	329	330	202
45°	272	274	276	279	280	209
55°	212	214	218	222	223	189
65°	146	148	153	159	162	144
75°	74	78	90	100	104	79
85°	13	24	40	54	58	16
90°	0	9	24	36	40	1
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: P517798

CATALOG NUMBER: HVL8-1-LD4-2LO-40-UNV-O-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	409.8	409.8	409.8	409.8	409.8
2.5°	410.3	409.7	407.9	409.7	409.6
5°	408.9	408.1	406.3	408.2	408.2
7.5°	406.2	405.9	404.3	406.5	406.5
10°	403.0	402.9	401.6	404.0	404.1
12.5°	398.6	399.0	397.7	400.0	400.3
15°	393.4	394.0	393.0	395.2	395.1
17.5°	387.7	388.1	387.3	389.8	389.7
20°	380.6	381.1	380.5	383.1	383.4
22.5°	372.8	373.5	373.4	376.1	376.8
25°	364.5	364.8	365.2	368.2	368.8
27.5°	355.3	355.8	356.5	359.3	359.8
30°	345.3	346.0	346.8	349.7	350.5
32.5°	334.6	335.4	336.4	340.1	340.5
35°	322.7	324.1	325.5	328.7	330.1
37.5°	310.7	312.5	313.8	317.2	318.3
40°	298.0	299.9	301.9	305.6	306.2
42.5°	284.8	286.9	289.3	292.6	293.8
45°	271.5	273.9	276.1	278.8	280.1
47.5°	257.1	259.5	262.2	265.3	266.1
50°	242.2	245.0	247.9	250.8	252.3
52.5°	226.9	230.3	233.6	236.7	238.1
55°	211.8	214.4	218.3	221.5	223.0
57.5°	196.2	198.3	201.9	207.1	207.9
60°	180.3	182.2	185.9	190.1	191.9
62.5°	162.7	165.3	169.2	174.6	176.1
65°	145.6	148.1	153.2	159.3	161.8
67.5°	129.1	129.9	136.5	142.9	146.9
70°	109.5	112.8	120.5	128.3	131.4
72.5°	92.7	96.0	104.4	113.6	117.5
75°	73.7	78.2	89.6	100.4	104.1
77.5°	57.0	62.0	76.1	86.9	91.3
80°	39.8	47.6	63.0	75.2	79.9
82.5°	25.0	34.7	51.1	63.9	68.0
85°	12.8	23.6	40.5	53.5	58.3
87.5°	3.4	15.3	31.5	44.0	48.8
90°	0.1	8.8	23.9	35.8	40.2
92.5°	0.1	4.9	17.8	28.5	32.9
95°	0.1	2.3	12.4	22.4	25.9
97.5°	0.1	1.0	8.5	16.9	20.4
100°	0.1	0.5	5.4	12.3	15.3
102.5°	0.2	0.3	3.4	8.8	11.2
105°	0.2	0.3	2.0	6.0	8.0
107.5°	0.2	0.3	1.2	4.1	5.5
110°	0.3	0.3	0.7	2.5	3.7

TEST NUMBER: P517798

CATALOG NUMBER: HVL8-1-LD4-2LO-40-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)