

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: P517870

Luminaire Tested: HVL8-2-LD4-1HI-30-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: P517870
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-2-LD4-1HI-30-UNV-O-EDD
Description: 2 FOOT, 8 INCH WIDE, HVL LED LUMINAIRE, WITH 3000K, 80 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1768.0 lumens
Efficiency: N/A
Efficacy: 82.2 lumens/watt
Spacing Criteria (0/90/45): 1.25 / 1.27 / 1.38
Luminous Opening: Rectangular w/ Sides (W: 0.67' x L: 2' x H: 0.17')
CIE Type: Direct

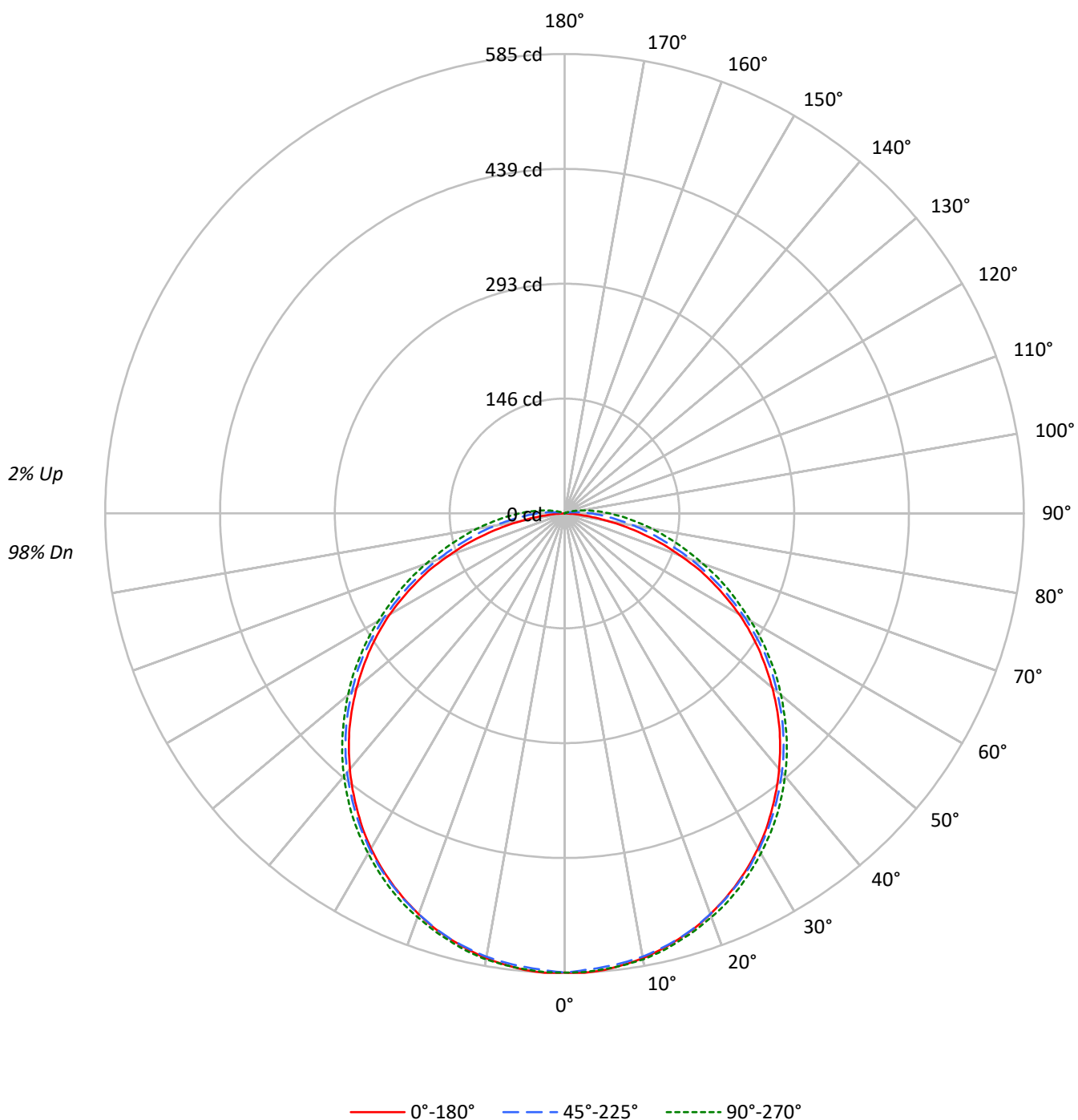
Input Watts (W): 21.5
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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: P517870

CATALOG NUMBER: HVL8-2-LD4-1HI-30-UNV-O-EDD

Luminous Intensity Polar Plot



TEST NUMBER: P517870

CATALOG NUMBER: HVL8-2-LD4-1HI-30-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°	4720	4720	4720
5°	4694	4604	4619
10°	4646	4510	4527
15°	4589	4409	4416
20°	4528	4296	4308
25°	4459	4182	4198
30°	4382	4061	4074
35°	4287	3928	3950
40°	4189	3790	3807
45°	4083	3640	3651
50°	3948	3468	3484
55°	3802	3280	3300
60°	3629	3040	3085
65°	3366	2774	2871
70°	3002	2462	2623
75°	2503	2122	2398
80°	1793	1788	2192
85°	863	1449	1995

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 4083 cd/sqm

TEST NUMBER: P517870

CATALOG NUMBER: HVL8-2-LD4-1HI-30-UNV-O-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	55.3	3.1
10°-20°	158.7	9.0
20°-30°	240.8	13.6
30°-40°	291.2	16.5
40°-50°	303.9	17.2
50°-60°	277.8	15.7
60°-70°	216.6	12.3
70°-80°	135.5	7.7
80°-90°	61.5	3.5
90°-100°	20.6	1.2
100°-110°	5.2	0.3
110°-120°	0.8	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°	454.9	25.7
0°-40°	746.1	42.2
0°-60°	1327.8	75.1
0°-90°	1741.4	98.5
90°-120°	26.6	1.5
90°-150°	26.6	1.5
90°-180°	27.0	1.5
0°-180°	1768.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	585	585	585	585	585	
5°	584	582	580	582	582	55
15°	561	562	561	564	564	158
25°	520	520	521	526	526	240
35°	460	462	464	469	471	288
45°	387	391	394	398	400	298
55°	302	306	312	316	318	270
65°	208	211	219	227	231	206
75°	105	112	128	143	149	112
85°	18	34	58	76	83	23
90°	0	12	34	51	57	1
95°	0	3	18	32	37	0
105°	0	0	3	8	11	0
115°	0	0	1	2	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: P517870

CATALOG NUMBER: HVL8-2-LD4-1HI-30-UNV-O-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	584.7	584.7	584.7	584.7	584.7
2.5°	585.4	584.6	582.0	584.6	584.5
5°	583.5	582.4	579.8	582.5	582.5
7.5°	579.6	579.2	576.9	580.1	580.1
10°	575.1	575.0	573.0	576.5	576.6
12.5°	568.8	569.3	567.5	570.8	571.2
15°	561.3	562.3	560.8	563.9	563.8
17.5°	553.2	553.7	552.6	556.2	556.1
20°	543.1	543.8	543.0	546.7	547.1
22.5°	532.0	532.9	532.8	536.6	537.7
25°	520.1	520.5	521.1	525.5	526.3
27.5°	507.0	507.7	508.7	512.7	513.5
30°	492.7	493.8	494.9	499.0	500.1
32.5°	477.5	478.6	480.0	485.4	485.9
35°	460.4	462.5	464.4	469.1	471.0
37.5°	443.3	445.9	447.7	452.7	454.2
40°	425.3	427.9	430.8	436.0	437.0
42.5°	406.4	409.4	412.9	417.5	419.2
45°	387.4	390.8	394.0	397.8	399.8
47.5°	366.8	370.3	374.1	378.5	379.8
50°	345.6	349.6	353.7	357.9	360.1
52.5°	323.8	328.6	333.3	337.7	339.8
55°	302.3	305.9	311.5	316.1	318.2
57.5°	280.0	283.0	288.1	295.5	296.6
60°	257.2	260.0	265.2	271.3	273.8
62.5°	232.1	235.9	241.4	249.1	251.3
65°	207.7	211.3	218.6	227.3	230.9
67.5°	184.2	185.4	194.8	203.9	209.7
70°	156.3	161.0	171.9	183.1	187.5
72.5°	132.3	137.0	149.0	162.1	167.6
75°	105.2	111.7	127.9	143.2	148.6
77.5°	81.3	88.5	108.6	124.1	130.3
80°	56.8	68.0	89.9	107.2	114.0
82.5°	35.7	49.5	72.9	91.1	97.0
85°	18.2	33.6	57.8	76.4	83.1
87.5°	4.8	21.8	44.9	62.7	69.6
90°	0.1	12.5	34.0	51.1	57.3
92.5°	0.1	7.0	25.4	40.7	47.0
95°	0.1	3.3	17.6	32.0	36.9
97.5°	0.1	1.4	12.1	24.1	29.1
100°	0.1	0.7	7.7	17.5	21.8
102.5°	0.3	0.4	4.8	12.5	16.0
105°	0.3	0.4	2.9	8.5	11.4
107.5°	0.3	0.4	1.7	5.8	7.9
110°	0.4	0.4	1.0	3.6	5.2

TEST NUMBER: P517870

CATALOG NUMBER: HVL8-2-LD4-1HI-30-UNV-O-EDD

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.4	0.4	0.6	2.3	3.4
115°	0.4	0.4	0.6	1.5	2.2
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)