

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: P517750

Luminaire Tested: HVL8-1-LD4-1LO-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: P517750
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-1-LD4-1LO-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: 652.0 lumens
Efficiency: N/A
Efficacy: 112.4 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

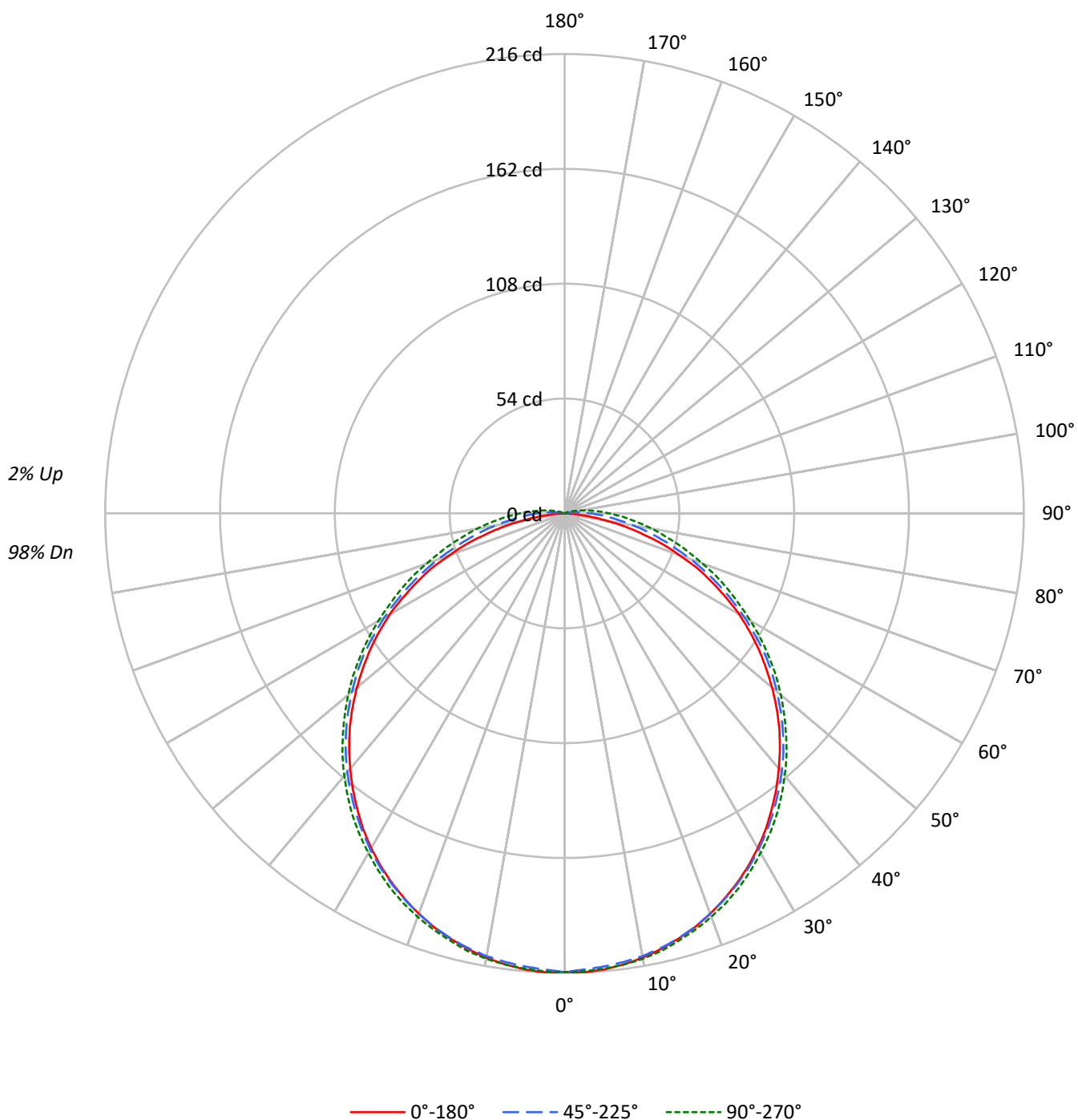
Input Watts (W): 5.8
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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: P517750

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

Luminous Intensity Polar Plot



TEST NUMBER: P517750

CATALOG NUMBER: HVL8-1-LD4-1LO-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	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°	3481	3481	3481
5°	3438	3378	3407
10°	3378	3293	3338
15°	3312	3204	3257
20°	3245	3107	3178
25°	3170	3010	3097
30°	3090	2908	3004
35°	2997	2799	2914
40°	2899	2685	2807
45°	2795	2563	2692
50°	2670	2424	2570
55°	2535	2276	2433
60°	2378	2091	2276
65°	2156	1887	2116
70°	1865	1654	1934
75°	1492	1402	1768
80°	999	1152	1615
85°	427	903	1474

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2795 cd/sqm

TEST NUMBER: P517750

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

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	20.4	3.1
10°-20°	58.5	9.0
20°-30°	88.8	13.6
30°-40°	107.4	16.5
40°-50°	112.1	17.2
50°-60°	102.5	15.7
60°-70°	79.9	12.2
70°-80°	50.0	7.7
80°-90°	22.7	3.5
90°-100°	7.6	1.2
100°-110°	1.9	0.3
110°-120°	0.3	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°	167.8	25.7
0°-40°	275.2	42.2
0°-60°	489.7	75.1
0°-90°	642.2	98.5
90°-120°	9.9	1.5
90°-150°	9.9	1.5
90°-180°	10.0	1.5
0°-180°	652.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	216	216	216	216	216	
5°	215	215	214	215	215	20
15°	207	207	207	208	208	58
25°	192	192	192	194	194	88
35°	170	171	171	173	174	106
45°	143	144	145	147	147	110
55°	112	113	115	117	117	100
65°	77	78	81	84	85	76
75°	39	41	47	53	55	41
85°	7	12	21	28	31	8
90°	0	5	13	19	21	0
95°	0	1	6	12	14	0
105°	0	0	1	3	4	0
115°	0	0	0	1	1	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: P517750

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

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	215.6	215.6	215.6	215.6	215.6
2.5°	215.9	215.6	214.6	215.6	215.5
5°	215.2	214.8	213.8	214.8	214.8
7.5°	213.8	213.6	212.7	213.9	213.9
10°	212.1	212.0	211.3	212.6	212.6
12.5°	209.7	209.9	209.3	210.5	210.7
15°	207.0	207.4	206.8	208.0	207.9
17.5°	204.0	204.2	203.8	205.1	205.1
20°	200.3	200.5	200.2	201.6	201.8
22.5°	196.2	196.5	196.5	197.9	198.3
25°	191.8	192.0	192.2	193.8	194.1
27.5°	187.0	187.2	187.6	189.1	189.4
30°	181.7	182.1	182.5	184.0	184.4
32.5°	176.1	176.5	177.0	179.0	179.2
35°	169.8	170.6	171.3	173.0	173.7
37.5°	163.5	164.5	165.1	166.9	167.5
40°	156.8	157.8	158.9	160.8	161.1
42.5°	149.9	151.0	152.3	154.0	154.6
45°	142.8	144.1	145.3	146.7	147.4
47.5°	135.3	136.5	138.0	139.6	140.1
50°	127.4	128.9	130.4	132.0	132.8
52.5°	119.4	121.2	122.9	124.5	125.3
55°	111.5	112.8	114.9	116.6	117.3
57.5°	103.2	104.4	106.2	109.0	109.4
60°	94.9	95.9	97.8	100.0	101.0
62.5°	85.6	87.0	89.0	91.9	92.7
65°	76.6	77.9	80.6	83.8	85.1
67.5°	67.9	68.4	71.8	75.2	77.3
70°	57.6	59.4	63.4	67.5	69.1
72.5°	48.8	50.5	55.0	59.8	61.8
75°	38.8	41.2	47.2	52.8	54.8
77.5°	30.0	32.6	40.1	45.8	48.0
80°	20.9	25.1	33.1	39.5	42.0
82.5°	13.2	18.2	26.9	33.6	35.8
85°	6.7	12.4	21.3	28.2	30.7
87.5°	1.8	8.0	16.6	23.1	25.7
90°	0.1	4.6	12.6	18.9	21.1
92.5°	0.1	2.6	9.4	15.0	17.3
95°	0.1	1.2	6.5	11.8	13.6
97.5°	0.1	0.5	4.5	8.9	10.7
100°	0.1	0.3	2.8	6.5	8.0
102.5°	0.1	0.2	1.8	4.6	5.9
105°	0.1	0.2	1.1	3.2	4.2
107.5°	0.1	0.2	0.6	2.1	2.9
110°	0.2	0.2	0.4	1.3	1.9

TEST NUMBER: P517750

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

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.2	0.2	0.2	0.9	1.3
115°	0.2	0.2	0.2	0.6	0.8
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)