

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: P517843

Luminaire Tested: HVL8-1-LD4-3LO-40-UNV-C-EDD-90

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: P517843
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-1-LD4-3LO-40-UNV-C-EDD-90
Description: 1 FOOT, 8 INCH WIDE, HVL LED LUMINAIRE, WITH 4000K, 90 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1813.0 lumens
Efficiency: N/A
Efficacy: 107.9 lumens/watt
Spacing Criteria (0/90/45): 1.18 / 1.32 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.67' x L: 1' x H: 0.17')
CIE Type: Direct

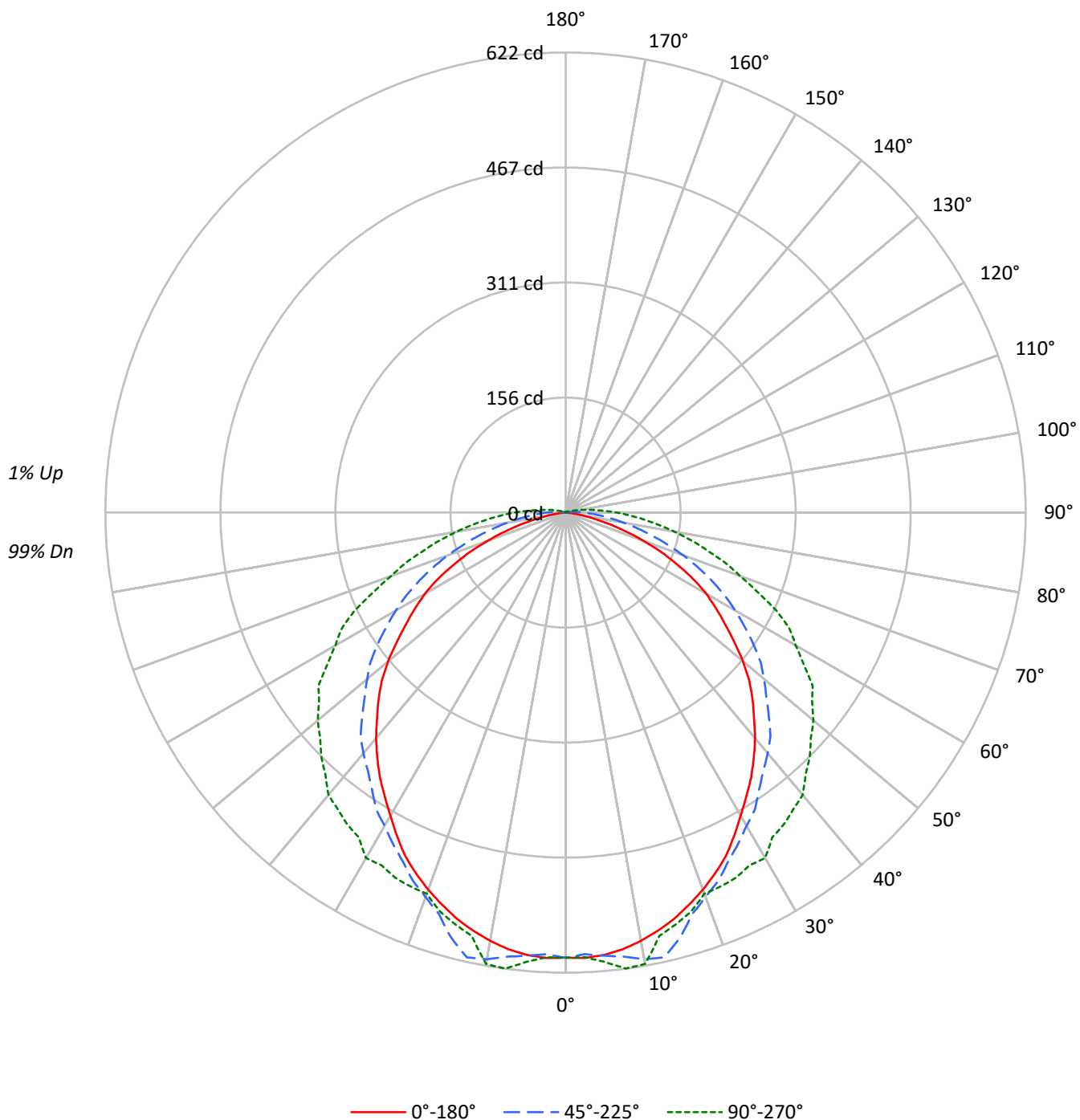
Input Watts (W): 16.8
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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: P517843

CATALOG NUMBER: HVL8-1-LD4-3LO-40-UNV-C-EDD-90

Luminous Intensity Polar Plot



TEST NUMBER: P517843

CATALOG NUMBER: HVL8-1-LD4-3LO-40-UNV-C-EDD-90

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°	9717	9717	9717
5°	9590	9499	9670
10°	9362	9557	9729
15°	9092	9230	9030
20°	8788	8583	8637
25°	8473	8151	8691
30°	8049	7794	8786
35°	7718	7454	8630
40°	7367	7182	8685
45°	6995	6852	8527
50°	6561	6506	8463
55°	5984	6140	8457
60°	5497	5663	8096
65°	4689	5110	7839
70°	3643	4422	7029
75°	2423	3616	6415
80°	1214	2816	5760
85°	357	2010	5075

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 45°

Luminance: 8527 cd/sqm

TEST NUMBER: P517843

CATALOG NUMBER: HVL8-1-LD4-3LO-40-UNV-C-EDD-90

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	57.8	3.2
10°-20°	164.7	9.1
20°-30°	245.1	13.5
30°-40°	294.6	16.2
40°-50°	310.1	17.1
50°-60°	287.7	15.9
60°-70°	227.5	12.5
70°-80°	139.0	7.7
80°-90°	60.5	3.3
90°-100°	18.8	1.0
100°-110°	4.2	0.2
110°-120°	1.7	0.1
120°-130°	0.9	0.1
130°-140°	0.3	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°	467.6	25.8
0°-40°	762.2	42.0
0°-60°	1360.0	75.0
0°-90°	1787.0	98.6
90°-120°	24.8	1.4
90°-150°	26.0	1.4
90°-180°	26.0	1.4
0°-180°	1813.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	602	602	602	602	602	
5°	600	599	601	608	610	57
15°	568	590	596	576	576	160
25°	513	545	520	536	545	235
35°	437	449	456	498	514	273
45°	357	359	388	450	467	275
55°	263	268	310	378	408	236
65°	167	172	218	289	315	165
75°	63	84	122	187	199	69
85°	6	20	47	92	106	9
90°	0	6	25	58	69	0
95°	0	2	11	32	39	0
105°	0	1	2	6	9	0
115°	0	0	2	3	3	0
125°	0	0	1	2	3	0
135°	0	0	0	1	1	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: P517843

CATALOG NUMBER: HVL8-1-LD4-3LO-40-UNV-C-EDD-90

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	601.8	601.8	601.8	601.8	601.8
2.5°	602.6	601.0	597.6	600.8	601.7
5°	600.3	599.1	601.2	607.9	609.7
7.5°	595.3	600.0	605.5	617.8	621.7
10°	587.8	596.7	613.2	623.6	619.6
12.5°	578.8	593.7	615.9	595.6	586.1
15°	568.2	590.0	595.8	576.1	576.4
17.5°	555.8	587.0	569.2	568.7	565.2
20°	542.5	576.7	553.1	552.2	548.4
22.5°	528.1	563.1	538.9	537.0	547.3
25°	512.6	545.3	520.4	536.0	544.7
27.5°	493.1	522.0	505.0	527.0	537.9
30°	473.3	498.0	489.2	519.9	539.3
32.5°	454.8	472.8	476.2	517.2	520.4
35°	437.3	449.4	456.2	497.6	514.5
37.5°	418.0	421.4	439.3	489.4	505.7
40°	398.4	396.3	425.0	475.9	498.5
42.5°	377.3	376.6	410.0	469.2	480.4
45°	357.4	359.0	388.5	450.0	466.8
47.5°	336.9	339.0	368.2	429.1	449.9
50°	313.1	315.8	350.0	410.4	437.3
52.5°	287.4	292.5	332.4	392.8	419.9
55°	263.2	267.5	309.9	377.7	407.7
57.5°	241.1	243.7	286.7	358.7	381.4
60°	219.4	220.1	264.9	337.6	359.3
62.5°	194.6	195.7	242.5	312.7	341.8
65°	166.6	171.9	218.3	289.0	315.2
67.5°	140.5	149.7	193.7	267.1	280.9
70°	112.5	128.1	169.5	241.5	251.2
72.5°	86.9	105.2	144.8	212.8	226.4
75°	63.0	83.5	121.7	187.1	198.8
77.5°	42.4	63.3	100.2	158.6	174.2
80°	25.4	46.2	80.9	132.3	149.8
82.5°	13.0	31.0	62.8	110.9	126.6
85°	5.6	19.6	47.4	92.1	105.7
87.5°	1.6	11.2	34.9	74.4	85.9
90°	0.1	5.9	24.9	58.4	68.8
92.5°	0.1	2.8	17.5	44.1	52.1
95°	0.1	1.5	10.9	32.0	39.1
97.5°	0.1	0.9	6.6	22.7	28.7
100°	0.1	0.7	3.9	15.1	20.5
102.5°	0.1	0.9	2.7	9.6	13.4
105°	0.1	0.9	2.2	6.3	8.8
107.5°	0.2	0.9	2.0	4.7	6.1
110°	0.1	0.7	2.1	3.6	4.8

TEST NUMBER: P517843

CATALOG NUMBER: HVL8-1-LD4-3LO-40-UNV-C-EDD-90

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.2	0.6	2.0	2.9	3.6
115°	0.1	0.5	1.7	2.8	2.9
117.5°	0.2	0.4	1.3	2.8	2.9
120°	0.2	0.2	1.1	2.7	3.1
122.5°	0.2	0.2	0.9	2.5	2.9
125°	0.1	0.2	0.7	1.8	2.6
127.5°	0.2	0.2	0.6	1.5	2.0
130°	0.2	0.2	0.5	1.1	1.5
132.5°	0.2	0.2	0.4	0.9	1.1
135°	0.2	0.2	0.2	0.6	0.9
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)