

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: P517688

Luminaire Tested: HVL12-8-LD4-3HI-50-UNV-C-EDD

Issue Date: 4/27/2021

Tested By:

Approved By:



NVLAP Lab Code: 200050-0

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Test Information

Test Method: LM-79-2019
Report Number: P517688
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL12-8-LD4-3HI-50-UNV-C-EDD
Description: 8 FOOT, 12 INCH WIDE, HVL LED LUMINAIRE, WITH 5000K, 80 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 26431.0 lumens
Efficiency: N/A
Efficacy: 102.2 lumens/watt
Spacing Criteria (0/90/45): 1.18 / 1.32 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 1' x L: 8' x H: 0.17')
CIE Type: Direct

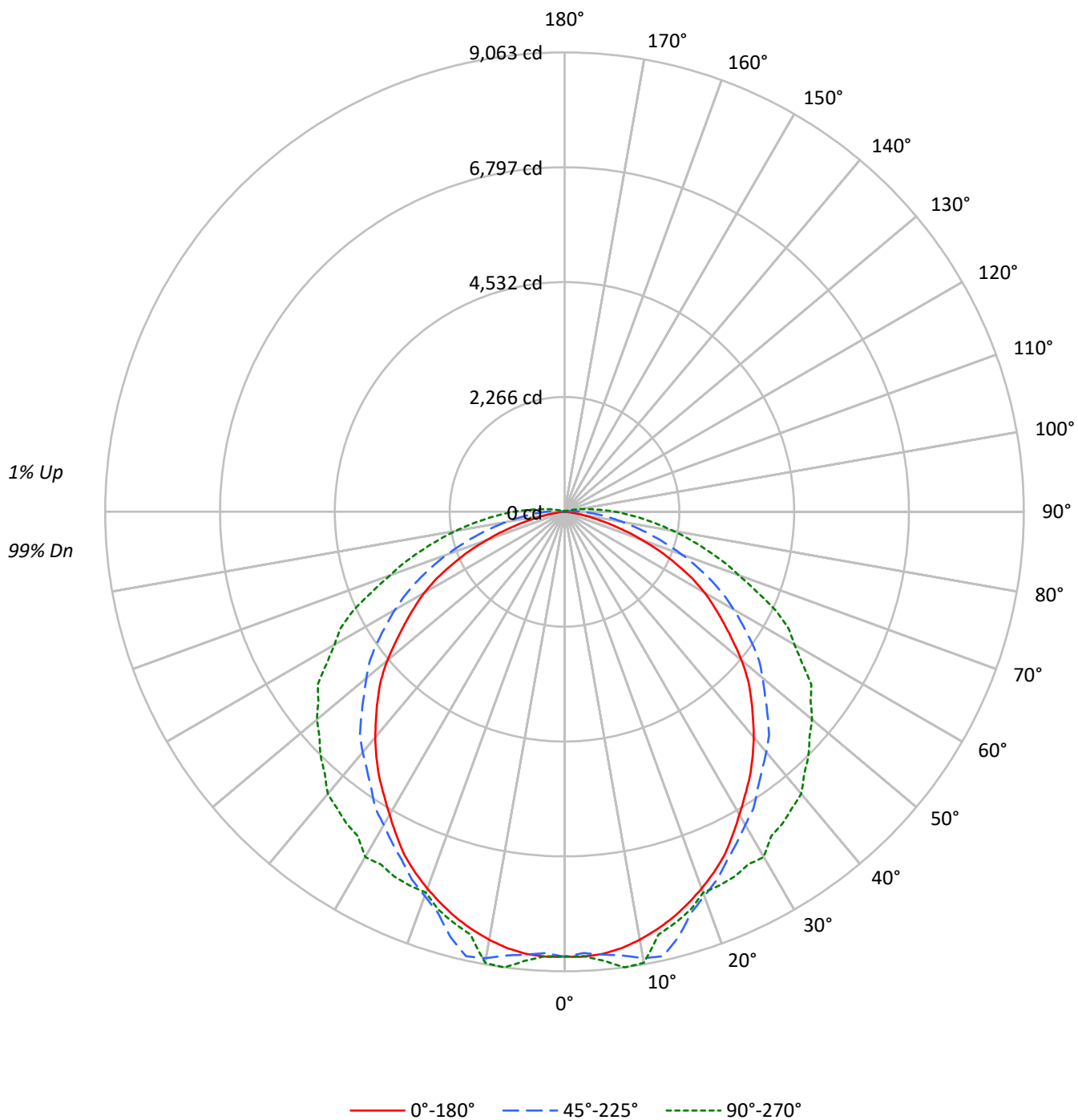
Input Watts (W): 258.6
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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

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Luminous Intensity Polar Plot



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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20
RC	80				70				50				30				0
RW	70	50	30	10	70	50	30	10	50	30	10		50	30	10		0
RCR																	
0	119	119	119	119	116	116	116	116	110	110	110		105	105	105		99
1	108	103	98	94	105	100	96	92	96	92	89		91	89	86		81
2	98	89	82	76	95	87	80	75	83	78	73		80	75	71		67
3	89	78	69	63	86	76	68	62	73	66	61		70	64	59		56
4	81	69	60	53	79	67	59	52	65	57	51		62	56	51		47
5	75	61	52	45	72	60	51	45	58	50	44		56	49	44		41
6	69	55	46	39	67	54	46	39	52	45	39		50	44	38		36
7	64	50	41	35	62	49	41	35	47	40	34		46	39	34		32
8	59	46	37	31	58	45	37	31	43	36	31		42	35	30		28
9	55	42	34	28	54	41	33	28	40	33	28		39	32	27		25
10	52	39	31	25	51	38	30	25	37	30	25		36	29	25		23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	11805	11805	11805
5°	11799	11702	11832
10°	11666	11935	11989
15°	11475	11684	11205
20°	11239	11015	10792
25°	10987	10607	10938
30°	10594	10291	11143
35°	10321	9995	11033
40°	10027	9794	11198
45°	9711	9515	11100
50°	9323	9223	11133
55°	8741	8911	11263
60°	8309	8452	10938
65°	7402	7890	10777
70°	6105	7127	9881
75°	4431	6172	9290
80°	2564	5217	8699
85°	1025	4245	8186

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 55°

Luminance: 11263 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	843.2	3.2
10°-20°	2401.4	9.1
20°-30°	3573.0	13.5
30°-40°	4294.7	16.2
40°-50°	4520.4	17.1
50°-60°	4194.4	15.9
60°-70°	3316.4	12.5
70°-80°	2025.8	7.7
80°-90°	882.6	3.3
90°-100°	274.8	1.0
100°-110°	61.7	0.2
110°-120°	24.8	0.1
120°-130°	14.0	0.1
130°-140°	3.8	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°	6817.6	25.8
0°-40°	11112.2	42.0
0°-60°	19827.1	75.0
0°-90°	26052.0	98.6
90°-120°	361.3	1.4
90°-150°	379.0	1.4
90°-180°	379.0	1.4
0°-180°	26431.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	8774	8774	8774	8774	8774	
5°	8752	8734	8765	8863	8888	829
15°	8284	8602	8686	8398	8404	2334
25°	7472	7950	7587	7814	7941	3431
35°	6375	6552	6650	7254	7501	3984
45°	5210	5233	5664	6561	6806	4016
55°	3837	3900	4518	5506	5944	3448
65°	2429	2506	3183	4213	4595	2406
75°	919	1217	1775	2727	2899	1003
85°	82	286	692	1342	1541	127
90°	2	86	363	851	1003	4
95°	2	21	159	466	570	1
105°	2	12	32	91	129	2
115°	2	7	25	41	43	3
125°	2	4	11	27	38	3
135°	4	4	4	9	12	2
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

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CATALOG NUMBER: HVL12-8-LD4-3HI-50-UNV-C-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	8773.7	8773.7	8773.7	8773.7	8773.7
2.5°	8784.4	8761.1	8712.9	8759.4	8771.9
5°	8752.2	8734.3	8764.7	8863.0	8888.0
7.5°	8678.9	8746.8	8827.3	9006.0	9063.2
10°	8569.9	8698.6	8939.9	9091.8	9032.8
12.5°	8437.6	8655.7	8979.2	8682.5	8544.9
15°	8283.9	8602.1	8686.1	8398.3	8403.7
17.5°	8103.4	8557.4	8298.2	8291.1	8239.3
20°	7908.6	8407.3	8064.1	8049.8	7994.4
22.5°	7699.5	8208.9	7856.8	7828.2	7978.3
25°	7472.5	7949.7	7586.9	7813.9	7940.8
27.5°	7188.4	7610.1	7361.7	7683.4	7842.5
30°	6900.6	7259.8	7131.2	7579.8	7862.2
32.5°	6630.7	6893.5	6941.7	7540.4	7586.9
35°	6375.2	6552.1	6650.4	7254.5	7501.1
37.5°	6094.6	6142.8	6403.7	7134.7	7372.4
40°	5808.6	5778.2	6196.4	6938.1	7267.0
42.5°	5501.2	5490.5	5976.6	6839.8	7004.3
45°	5209.9	5233.1	5663.8	6561.0	6805.9
47.5°	4911.4	4941.8	5367.1	6255.4	6559.2
50°	4564.7	4604.0	5102.6	5983.7	6375.2
52.5°	4189.3	4264.4	4845.3	5726.4	6121.4
55°	3837.2	3899.8	4518.2	5506.5	5944.4
57.5°	3515.5	3553.1	4180.4	5229.5	5560.2
60°	3199.2	3208.1	3862.3	4922.1	5238.5
62.5°	2836.4	2852.5	3535.2	4559.3	4982.9
65°	2428.9	2505.7	3183.1	4212.6	4595.0
67.5°	2048.2	2182.2	2823.9	3894.4	4094.6
70°	1640.7	1867.7	2471.8	3520.9	3662.1
72.5°	1267.2	1533.5	2110.8	3102.7	3301.1
75°	918.7	1217.1	1774.7	2727.4	2898.9
77.5°	618.4	922.2	1460.2	2312.7	2539.7
80°	370.0	673.8	1179.6	1928.5	2184.0
82.5°	189.4	452.2	915.1	1617.5	1846.2
85°	82.2	286.0	691.7	1342.2	1540.6
87.5°	23.2	162.6	509.4	1084.9	1252.9
90°	1.8	85.8	362.8	850.7	1002.7
92.5°	1.8	41.1	255.6	643.4	759.6
95°	1.8	21.4	159.1	466.5	570.1
97.5°	1.8	12.5	96.5	330.6	418.2
100°	1.8	10.7	57.2	219.8	298.5
102.5°	1.8	12.5	39.3	139.4	194.8
105°	1.8	12.5	32.2	91.2	128.7
107.5°	3.6	12.5	28.6	67.9	89.4
110°	1.8	10.7	30.4	51.8	69.7

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	3.6	8.9	28.6	42.9	51.8
115°	1.8	7.1	25.0	41.1	42.9
117.5°	3.6	5.4	19.7	41.1	42.9
120°	3.6	3.6	16.1	39.3	44.7
122.5°	3.6	3.6	12.5	35.7	42.9
125°	1.8	3.6	10.7	26.8	37.5
127.5°	3.6	3.6	8.9	21.4	28.6
130°	3.6	3.6	7.1	16.1	21.4
132.5°	3.6	3.6	5.4	12.5	16.1
135°	3.6	3.6	3.6	8.9	12.5
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)