

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: P517383

Luminaire Tested: HVL12-2-LD4-2STD-50-UNV-C-EDD-90

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: P517383
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL12-2-LD4-2STD-50-UNV-C-EDD-90
Description: 2 FOOT, 12 INCH WIDE, HVL LED LUMINAIRE, WITH 5000K, 90 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3255.9 lumens
Efficiency: N/A
Efficacy: 96.9 lumens/watt
Spacing Criteria (0/90/45): 1.18 / 1.32 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 1' x L: 2' x H: 0.17')
CIE Type: Direct

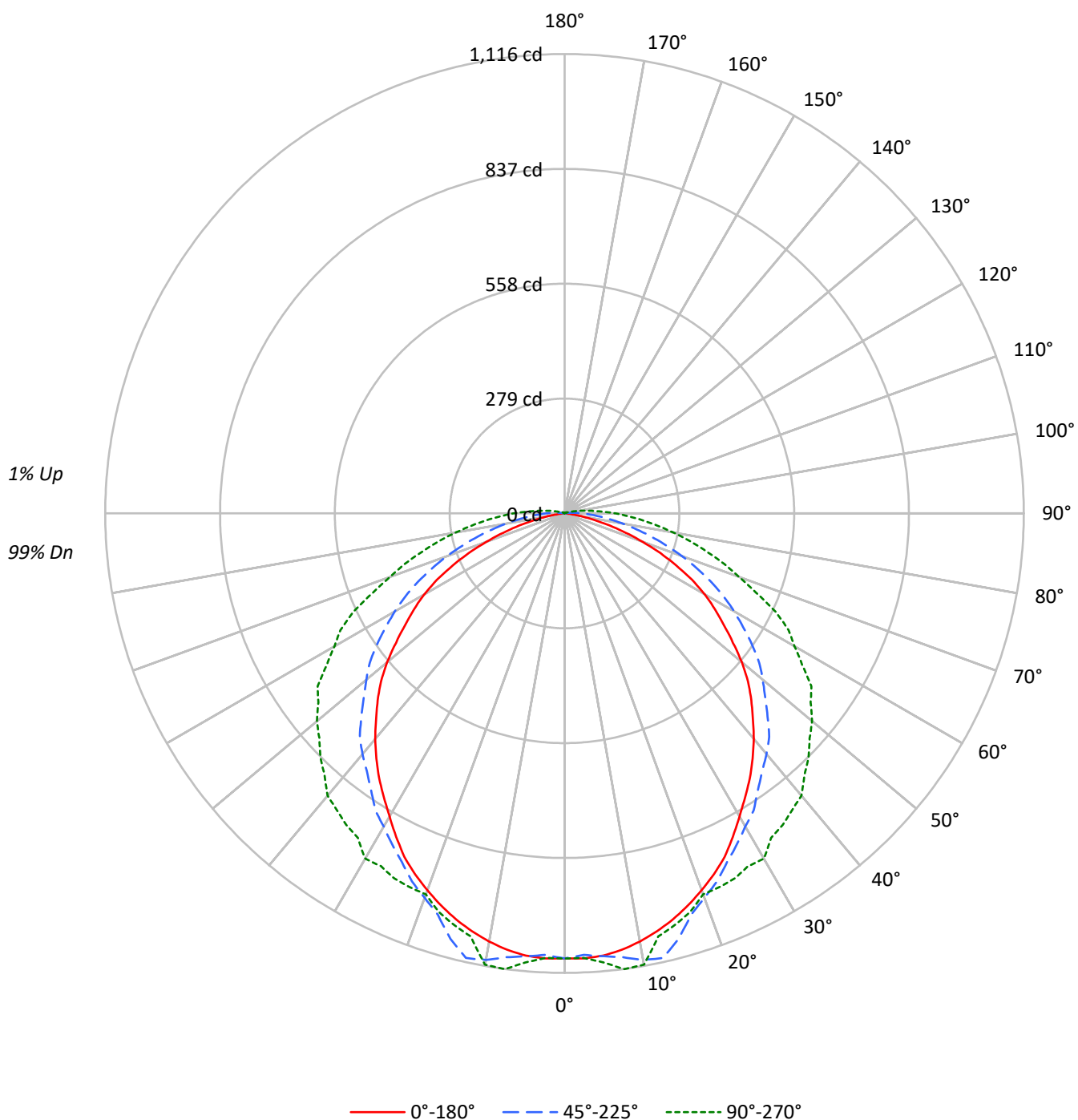
Input Watts (W): 33.6
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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					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	39	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°	5817	5817	5817
5°	5783	5744	5830
10°	5686	5837	5907
15°	5562	5692	5521
20°	5416	5346	5318
25°	5262	5127	5390
30°	5040	4954	5490
35°	4875	4790	5437
40°	4699	4670	5518
45°	4509	4512	5469
50°	4283	4347	5485
55°	3964	4170	5550
60°	3707	3921	5390
65°	3232	3621	5311
70°	2588	3225	4869
75°	1795	2739	4578
80°	960	2249	4286
85°	319	1742	4034

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 55°

Luminance: 5550 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	103.9	3.2
10°-20°	295.8	9.1
20°-30°	440.1	13.5
30°-40°	529.1	16.2
40°-50°	556.9	17.1
50°-60°	516.7	15.9
60°-70°	408.5	12.5
70°-80°	249.6	7.7
80°-90°	108.7	3.3
90°-100°	33.8	1.0
100°-110°	7.6	0.2
110°-120°	3.1	0.1
120°-130°	1.7	0.1
130°-140°	0.5	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°	839.8	25.8
0°-40°	1368.9	42.0
0°-60°	2442.5	75.0
0°-90°	3209.3	98.6
90°-120°	44.5	1.4
90°-150°	46.6	1.4
90°-180°	47.0	1.4
0°-180°	3255.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1081	1081	1081	1081	1081	
5°	1078	1076	1080	1092	1095	102
15°	1020	1060	1070	1035	1035	287
25°	920	979	935	963	978	423
35°	785	807	819	894	924	491
45°	642	645	698	808	838	495
55°	473	480	557	678	732	425
65°	299	309	392	519	566	296
75°	113	150	219	336	357	124
85°	10	35	85	165	190	16
90°	0	11	45	105	124	0
95°	0	3	20	58	70	0
105°	0	2	4	11	16	0
115°	0	1	3	5	5	0
125°	0	0	1	3	5	0
135°	0	0	0	1	2	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

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1080.8	1080.8	1080.8	1080.8	1080.8
2.5°	1082.1	1079.3	1073.3	1079.1	1080.6
5°	1078.2	1076.0	1079.7	1091.8	1094.9
7.5°	1069.1	1077.5	1087.4	1109.4	1116.5
10°	1055.7	1071.6	1101.3	1120.0	1112.7
12.5°	1039.4	1066.3	1106.1	1069.6	1052.6
15°	1020.5	1059.7	1070.0	1034.6	1035.2
17.5°	998.3	1054.2	1022.2	1021.4	1015.0
20°	974.3	1035.7	993.4	991.6	984.8
22.5°	948.5	1011.2	967.9	964.3	982.8
25°	920.5	979.3	934.6	962.6	978.2
27.5°	885.5	937.5	906.9	946.5	966.1
30°	850.1	894.3	878.5	933.7	968.5
32.5°	816.8	849.2	855.1	928.9	934.6
35°	785.3	807.1	819.3	893.7	924.1
37.5°	750.8	756.7	788.9	878.9	908.2
40°	715.6	711.8	763.3	854.7	895.2
42.5°	677.7	676.4	736.2	842.6	862.8
45°	641.8	644.7	697.7	808.2	838.4
47.5°	605.0	608.8	661.2	770.6	808.0
50°	562.3	567.2	628.6	737.1	785.3
52.5°	516.1	525.3	596.9	705.4	754.1
55°	472.7	480.4	556.6	678.3	732.3
57.5°	433.1	437.7	515.0	644.2	684.9
60°	394.1	395.2	475.8	606.3	645.3
62.5°	349.4	351.4	435.5	561.7	613.8
65°	299.2	308.7	392.1	518.9	566.1
67.5°	252.3	268.8	347.9	479.8	504.4
70°	202.1	230.1	304.5	433.7	451.1
72.5°	156.1	188.9	260.0	382.2	406.7
75°	113.2	149.9	218.6	336.0	357.1
77.5°	76.2	113.6	179.9	284.9	312.9
80°	45.6	83.0	145.3	237.6	269.0
82.5°	23.3	55.7	112.7	199.3	227.4
85°	10.1	35.2	85.2	165.3	189.8
87.5°	2.9	20.0	62.7	133.6	154.3
90°	0.2	10.6	44.7	104.8	123.5
92.5°	0.2	5.1	31.5	79.3	93.6
95°	0.2	2.6	19.6	57.5	70.2
97.5°	0.2	1.5	11.9	40.7	51.5
100°	0.2	1.3	7.0	27.1	36.8
102.5°	0.2	1.5	4.8	17.2	24.0
105°	0.2	1.5	4.0	11.2	15.9
107.5°	0.4	1.5	3.5	8.4	11.0
110°	0.2	1.3	3.7	6.4	8.6

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.4	1.1	3.5	5.3	6.4
115°	0.2	0.9	3.1	5.1	5.3
117.5°	0.4	0.7	2.4	5.1	5.3
120°	0.4	0.4	2.0	4.8	5.5
122.5°	0.4	0.4	1.5	4.4	5.3
125°	0.2	0.4	1.3	3.3	4.6
127.5°	0.4	0.4	1.1	2.6	3.5
130°	0.4	0.4	0.9	2.0	2.6
132.5°	0.4	0.4	0.7	1.5	2.0
135°	0.4	0.4	0.4	1.1	1.5
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)