

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: P517404

Luminaire Tested: HVL12-2-LD4-3LO-30-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: P517404
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL12-2-LD4-3LO-30-UNV-C-EDD
Description: 2 FOOT, 12 INCH WIDE, HVL LED LUMINAIRE, WITH 3000K, 80 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4250.0 lumens
Efficiency: N/A
Efficacy: 122.8 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

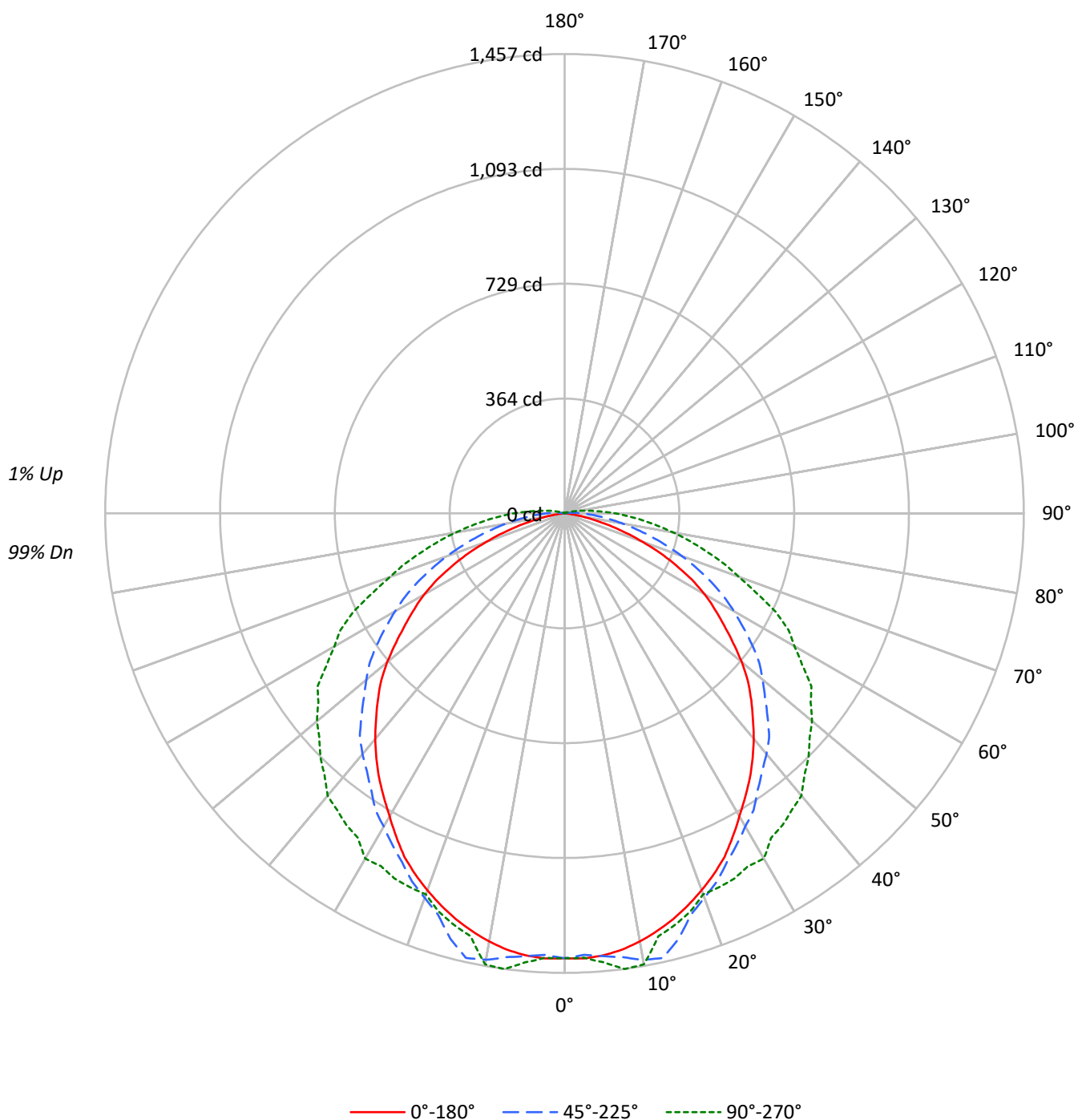
Input Watts (W): 34.6
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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
RCR																	
0	119	119	119	119	116	116	116	116	110	110	110		105	105	105		101
1	108	103	98	94	105	100	96	92	96	92	89		91	89	86		87
2	98	89	82	76	95	87	80	75	83	78	73		80	75	71		76
3	89	78	69	63	86	76	68	62	73	66	61		70	64	59		67
4	81	69	60	53	79	67	59	52	65	57	51		62	56	51		60
5	75	61	52	45	72	60	51	45	58	50	44		56	49	44		54
6	69	55	46	39	67	54	46	39	52	45	39		50	44	38		49
7	64	50	41	35	62	49	41	35	47	40	34		46	39	34		44
8	59	46	37	31	58	45	37	31	43	36	31		42	35	30		41
9	55	42	34	28	54	41	33	28	40	33	28		39	32	27		38
10	52	39	31	25	51	38	30	25	37	30	25		36	29	25		35

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	7593	7593	7593
5°	7548	7498	7610
10°	7422	7618	7711
15°	7260	7430	7207
20°	7069	6978	6941
25°	6869	6692	7035
30°	6579	6466	7167
35°	6364	6252	7097
40°	6133	6096	7202
45°	5885	5890	7140
50°	5590	5674	7160
55°	5174	5443	7244
60°	4838	5117	7035
65°	4220	4726	6932
70°	3378	4210	6356
75°	2343	3575	5975
80°	1252	2936	5595
85°	417	2273	5265

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 55°

Luminance: 7244 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	135.6	3.2
10°-20°	386.1	9.1
20°-30°	574.5	13.5
30°-40°	690.6	16.2
40°-50°	726.9	17.1
50°-60°	674.5	15.9
60°-70°	533.3	12.5
70°-80°	325.7	7.7
80°-90°	141.9	3.3
90°-100°	44.2	1.0
100°-110°	9.9	0.2
110°-120°	4.0	0.1
120°-130°	2.2	0.1
130°-140°	0.6	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°	1096.2	25.8
0°-40°	1786.8	42.0
0°-60°	3188.1	75.0
0°-90°	4189.1	98.6
90°-120°	58.1	1.4
90°-150°	60.9	1.4
90°-180°	61.0	1.4
0°-180°	4250.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1411	1411	1411	1411	1411	
5°	1407	1404	1409	1425	1429	133
15°	1332	1383	1397	1350	1351	375
25°	1202	1278	1220	1256	1277	552
35°	1025	1054	1069	1166	1206	641
45°	838	842	911	1055	1094	646
55°	617	627	726	885	956	554
65°	391	403	512	677	739	387
75°	148	196	285	438	466	161
85°	13	46	111	216	248	20
90°	0	14	58	137	161	1
95°	0	3	26	75	92	0
105°	0	2	5	15	21	0
115°	0	1	4	7	7	0
125°	0	1	2	4	6	0
135°	1	1	1	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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CATALOG NUMBER: HVL12-2-LD4-3LO-30-UNV-C-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1410.8	1410.8	1410.8	1410.8	1410.8
2.5°	1412.5	1408.8	1401.0	1408.5	1410.5
5°	1407.3	1404.4	1409.3	1425.1	1429.2
7.5°	1395.5	1406.5	1419.4	1448.1	1457.3
10°	1378.0	1398.7	1437.5	1461.9	1452.4
12.5°	1356.7	1391.8	1443.8	1396.1	1374.0
15°	1332.0	1383.2	1396.7	1350.4	1351.3
17.5°	1303.0	1376.0	1334.3	1333.2	1324.8
20°	1271.7	1351.9	1296.7	1294.4	1285.5
22.5°	1238.1	1320.0	1263.3	1258.7	1282.9
25°	1201.6	1278.3	1219.9	1256.4	1276.8
27.5°	1155.9	1223.7	1183.7	1235.5	1261.0
30°	1109.6	1167.4	1146.7	1218.8	1264.2
32.5°	1066.2	1108.4	1116.2	1212.5	1219.9
35°	1025.1	1053.6	1069.4	1166.5	1206.2
37.5°	980.0	987.7	1029.7	1147.2	1185.5
40°	934.0	929.1	996.4	1115.6	1168.5
42.5°	884.6	882.8	961.0	1099.8	1126.3
45°	837.7	841.5	910.7	1055.0	1094.4
47.5°	789.7	794.6	863.0	1005.8	1054.7
50°	734.0	740.3	820.5	962.2	1025.1
52.5°	673.6	685.7	779.1	920.8	984.3
55°	617.0	627.1	726.5	885.4	955.8
57.5°	565.3	571.3	672.2	840.9	894.1
60°	514.4	515.9	621.0	791.5	842.3
62.5°	456.1	458.7	568.4	733.1	801.2
65°	390.6	402.9	511.8	677.4	738.9
67.5°	329.3	350.9	454.1	626.2	658.4
70°	263.8	300.3	397.5	566.1	588.9
72.5°	203.8	246.6	339.4	498.9	530.8
75°	147.7	195.7	285.4	438.5	466.1
77.5°	99.4	148.3	234.8	371.9	408.4
80°	59.5	108.3	189.7	310.1	351.2
82.5°	30.5	72.7	147.1	260.1	296.9
85°	13.2	46.0	111.2	215.8	247.7
87.5°	3.7	26.2	81.9	174.4	201.5
90°	0.3	13.8	58.3	136.8	161.2
92.5°	0.3	6.6	41.1	103.5	122.1
95°	0.3	3.4	25.6	75.0	91.7
97.5°	0.3	2.0	15.5	53.2	67.2
100°	0.3	1.7	9.2	35.3	48.0
102.5°	0.3	2.0	6.3	22.4	31.3
105°	0.3	2.0	5.2	14.7	20.7
107.5°	0.6	2.0	4.6	10.9	14.4
110°	0.3	1.7	4.9	8.3	11.2

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.6	1.4	4.6	6.9	8.3
115°	0.3	1.1	4.0	6.6	6.9
117.5°	0.6	0.9	3.2	6.6	6.9
120°	0.6	0.6	2.6	6.3	7.2
122.5°	0.6	0.6	2.0	5.7	6.9
125°	0.3	0.6	1.7	4.3	6.0
127.5°	0.6	0.6	1.4	3.4	4.6
130°	0.6	0.6	1.1	2.6	3.4
132.5°	0.6	0.6	0.9	2.0	2.6
135°	0.6	0.6	0.6	1.4	2.0
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)