

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: P517164

Luminaire Tested: HVL12-1-LD4-1LO-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: P517164
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL12-1-LD4-1LO-30-UNV-C-EDD
Description: 1 FOOT, 12 INCH WIDE, HVL LED LUMINAIRE, WITH 3000K, 80 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 710.0 lumens
Efficiency: N/A
Efficacy: 120.3 lumens/watt
Spacing Criteria (0/90/45): 1.18 / 1.32 / 1.36
Luminous Opening: Rectangular w/ Sides (W: 1' x L: 1' x H: 0.17')
CIE Type: Direct

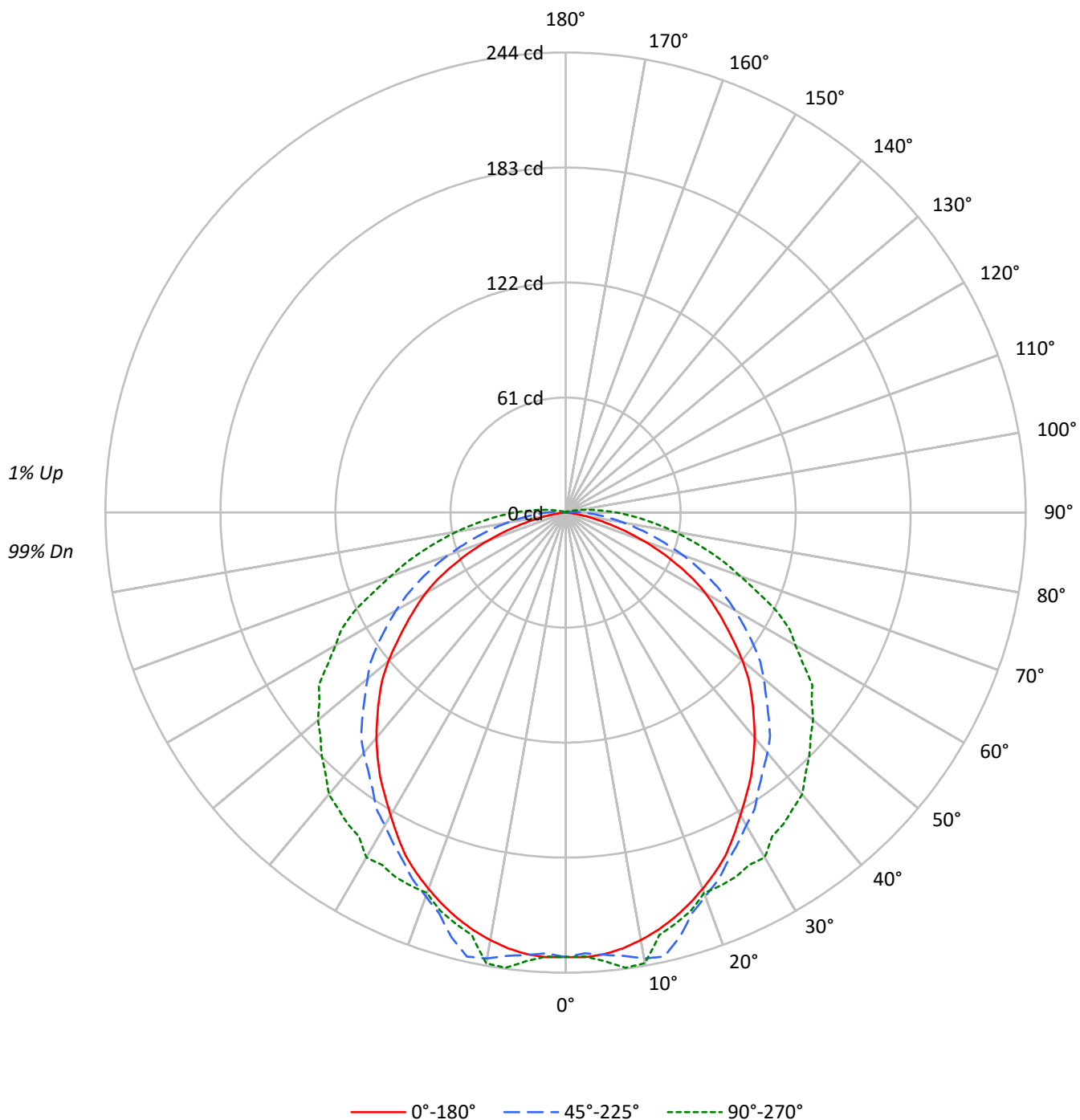
Input Watts (W): 5.9
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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°	2537	2537	2537
5°	2504	2492	2543
10°	2444	2520	2576
15°	2373	2445	2408
20°	2294	2285	2319
25°	2212	2181	2351
30°	2102	2096	2395
35°	2016	2014	2371
40°	1923	1953	2406
45°	1825	1874	2385
50°	1713	1792	2393
55°	1563	1704	2421
60°	1435	1585	2350
65°	1223	1446	2315
70°	952	1268	2124
75°	633	1055	1997
80°	315	841	1870
85°	94	622	1760

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 55°

Luminance: 2421 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	22.7	3.2
10°-20°	64.5	9.1
20°-30°	96.0	13.5
30°-40°	115.4	16.2
40°-50°	121.4	17.1
50°-60°	112.7	15.9
60°-70°	89.1	12.5
70°-80°	54.4	7.7
80°-90°	23.7	3.3
90°-100°	7.4	1.0
100°-110°	1.6	0.2
110°-120°	0.7	0.1
120°-130°	0.4	0.1
130°-140°	0.1	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°	183.1	25.8
0°-40°	298.5	42.0
0°-60°	532.6	75.0
0°-90°	699.8	98.6
90°-120°	9.7	1.4
90°-150°	10.2	1.4
90°-180°	10.0	1.4
0°-180°	710.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	236	236	236	236	236	
5°	235	235	235	238	239	22
15°	222	231	233	226	226	63
25°	201	214	204	210	213	92
35°	171	176	179	195	202	107
45°	140	141	152	176	183	108
55°	103	105	121	148	160	93
65°	65	67	86	113	123	65
75°	25	33	48	73	78	27
85°	2	8	19	36	41	3
90°	0	2	10	23	27	0
95°	0	1	4	12	15	0
105°	0	0	1	2	4	0
115°	0	0	1	1	1	0
125°	0	0	0	1	1	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

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CATALOG NUMBER: HVL12-1-LD4-1LO-30-UNV-C-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	235.7	235.7	235.7	235.7	235.7
2.5°	236.0	235.3	234.0	235.3	235.6
5°	235.1	234.6	235.4	238.1	238.8
7.5°	233.1	235.0	237.1	241.9	243.5
10°	230.2	233.7	240.1	244.2	242.6
12.5°	226.7	232.5	241.2	233.2	229.5
15°	222.5	231.1	233.3	225.6	225.7
17.5°	217.7	229.9	222.9	222.7	221.3
20°	212.4	225.8	216.6	216.2	214.7
22.5°	206.8	220.5	211.1	210.3	214.3
25°	200.7	213.5	203.8	209.9	213.3
27.5°	193.1	204.4	197.8	206.4	210.7
30°	185.4	195.0	191.6	203.6	211.2
32.5°	178.1	185.2	186.5	202.6	203.8
35°	171.3	176.0	178.6	194.9	201.5
37.5°	163.7	165.0	172.0	191.7	198.0
40°	156.0	155.2	166.5	186.4	195.2
42.5°	147.8	147.5	160.5	183.7	188.2
45°	139.9	140.6	152.1	176.2	182.8
47.5°	131.9	132.7	144.2	168.0	176.2
50°	122.6	123.7	137.1	160.7	171.3
52.5°	112.5	114.6	130.2	153.8	164.4
55°	103.1	104.8	121.4	147.9	159.7
57.5°	94.4	95.4	112.3	140.5	149.4
60°	85.9	86.2	103.7	132.2	140.7
62.5°	76.2	76.6	95.0	122.5	133.9
65°	65.2	67.3	85.5	113.2	123.4
67.5°	55.0	58.6	75.9	104.6	110.0
70°	44.1	50.2	66.4	94.6	98.4
72.5°	34.0	41.2	56.7	83.3	88.7
75°	24.7	32.7	47.7	73.3	77.9
77.5°	16.6	24.8	39.2	62.1	68.2
80°	9.9	18.1	31.7	51.8	58.7
82.5°	5.1	12.1	24.6	43.4	49.6
85°	2.2	7.7	18.6	36.1	41.4
87.5°	0.6	4.4	13.7	29.1	33.7
90°	0.0	2.3	9.7	22.9	26.9
92.5°	0.0	1.1	6.9	17.3	20.4
95°	0.0	0.6	4.3	12.5	15.3
97.5°	0.0	0.3	2.6	8.9	11.2
100°	0.0	0.3	1.5	5.9	8.0
102.5°	0.0	0.3	1.1	3.7	5.2
105°	0.0	0.3	0.9	2.4	3.5
107.5°	0.1	0.3	0.8	1.8	2.4
110°	0.0	0.3	0.8	1.4	1.9

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.1	0.2	0.8	1.2	1.4
115°	0.0	0.2	0.7	1.1	1.2
117.5°	0.1	0.1	0.5	1.1	1.2
120°	0.1	0.1	0.4	1.1	1.2
122.5°	0.1	0.1	0.3	1.0	1.2
125°	0.0	0.1	0.3	0.7	1.0
127.5°	0.1	0.1	0.2	0.6	0.8
130°	0.1	0.1	0.2	0.4	0.6
132.5°	0.1	0.1	0.1	0.3	0.4
135°	0.1	0.1	0.1	0.2	0.3
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)