

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: P517180

Luminaire Tested: HVL12-1-LD4-1STD-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: P517180
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL12-1-LD4-1STD-30-UNV-C-EDD
Description: 1 FOOT, 12 INCH WIDE, HVL LED LUMINAIRE, WITH 3000K, 80 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

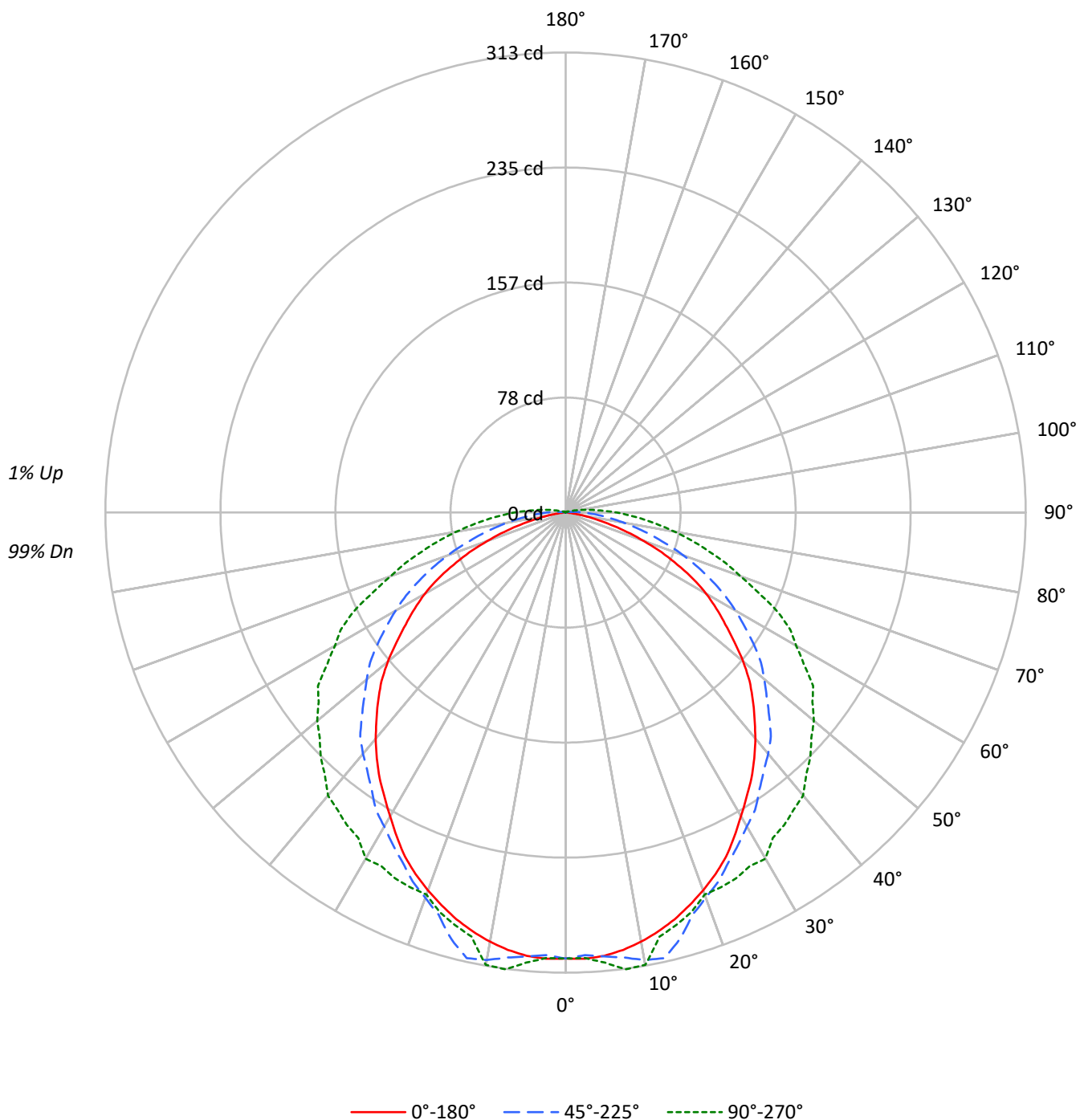
Lumens per Lamp: N/A
Luminaire Lumens: 914.0 lumens
Efficiency: N/A
Efficacy: 108.8 lumens/watt
Spacing Criteria (0/90/45): 1.18 / 1.32 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 1' x L: 1' x H: 0.17')
CIE Type: Direct

Input Watts (W): 8.4
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	40	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°	3266	3266	3266
5°	3224	3209	3274
10°	3147	3244	3317
15°	3056	3149	3100
20°	2954	2942	2986
25°	2848	2808	3026
30°	2705	2698	3083
35°	2595	2594	3052
40°	2476	2514	3098
45°	2351	2413	3071
50°	2205	2307	3080
55°	2011	2193	3116
60°	1848	2042	3025
65°	1576	1863	2981
70°	1224	1633	2733
75°	815	1358	2569
80°	408	1082	2406
85°	119	799	2266

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 55°

Luminance: 3116 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	29.2	3.2
10°-20°	83.0	9.1
20°-30°	123.6	13.5
30°-40°	148.5	16.2
40°-50°	156.3	17.1
50°-60°	145.1	15.9
60°-70°	114.7	12.5
70°-80°	70.1	7.7
80°-90°	30.5	3.3
90°-100°	9.5	1.0
100°-110°	2.1	0.2
110°-120°	0.9	0.1
120°-130°	0.5	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°	235.8	25.8
0°-40°	384.3	42.0
0°-60°	685.7	75.0
0°-90°	900.9	98.6
90°-120°	12.5	1.4
90°-150°	13.1	1.4
90°-180°	13.0	1.4
0°-180°	914.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	303	303	303	303	303	
5°	303	302	303	306	307	29
15°	286	298	300	290	291	81
25°	258	275	262	270	275	119
35°	220	227	230	251	259	138
45°	180	181	196	227	235	139
55°	133	135	156	190	206	119
65°	84	87	110	146	159	83
75°	32	42	61	94	100	35
85°	3	10	24	46	53	4
90°	0	3	12	29	35	0
95°	0	1	6	16	20	0
105°	0	0	1	3	4	0
115°	0	0	1	1	2	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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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	303.4	303.4	303.4	303.4	303.4
2.5°	303.8	303.0	301.3	302.9	303.3
5°	302.7	302.0	303.1	306.5	307.4
7.5°	300.1	302.5	305.3	311.4	313.4
10°	296.4	300.8	309.1	314.4	312.4
12.5°	291.8	299.3	310.5	300.2	295.5
15°	286.5	297.5	300.4	290.4	290.6
17.5°	280.2	295.9	287.0	286.7	284.9
20°	273.5	290.7	278.9	278.4	276.5
22.5°	266.3	283.9	271.7	270.7	275.9
25°	258.4	274.9	262.4	270.2	274.6
27.5°	248.6	263.2	254.6	265.7	271.2
30°	238.6	251.0	246.6	262.1	271.9
32.5°	229.3	238.4	240.0	260.8	262.4
35°	220.5	226.6	230.0	250.9	259.4
37.5°	210.8	212.4	221.4	246.7	254.9
40°	200.9	199.8	214.3	239.9	251.3
42.5°	190.2	189.9	206.7	236.5	242.2
45°	180.2	181.0	195.9	226.9	235.4
47.5°	169.8	170.9	185.6	216.3	226.8
50°	157.8	159.2	176.5	206.9	220.5
52.5°	144.9	147.5	167.6	198.0	211.7
55°	132.7	134.9	156.2	190.4	205.6
57.5°	121.6	122.9	144.6	180.8	192.3
60°	110.6	110.9	133.6	170.2	181.1
62.5°	98.1	98.6	122.2	157.7	172.3
65°	84.0	86.6	110.1	145.7	158.9
67.5°	70.8	75.5	97.7	134.7	141.6
70°	56.7	64.6	85.5	121.8	126.6
72.5°	43.8	53.0	73.0	107.3	114.2
75°	31.8	42.1	61.4	94.3	100.2
77.5°	21.4	31.9	50.5	80.0	87.8
80°	12.8	23.3	40.8	66.7	75.5
82.5°	6.6	15.6	31.6	55.9	63.8
85°	2.8	9.9	23.9	46.4	53.3
87.5°	0.8	5.6	17.6	37.5	43.3
90°	0.1	3.0	12.5	29.4	34.7
92.5°	0.1	1.4	8.8	22.2	26.3
95°	0.1	0.7	5.5	16.1	19.7
97.5°	0.1	0.4	3.3	11.4	14.5
100°	0.1	0.4	2.0	7.6	10.3
102.5°	0.1	0.4	1.4	4.8	6.7
105°	0.1	0.4	1.1	3.2	4.4
107.5°	0.1	0.4	1.0	2.3	3.1
110°	0.1	0.4	1.1	1.8	2.4

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.1	0.3	1.0	1.5	1.8
115°	0.1	0.2	0.9	1.4	1.5
117.5°	0.1	0.2	0.7	1.4	1.5
120°	0.1	0.1	0.6	1.4	1.5
122.5°	0.1	0.1	0.4	1.2	1.5
125°	0.1	0.1	0.4	0.9	1.3
127.5°	0.1	0.1	0.3	0.7	1.0
130°	0.1	0.1	0.2	0.6	0.7
132.5°	0.1	0.1	0.2	0.4	0.6
135°	0.1	0.1	0.1	0.3	0.4
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)