

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: P517724

Luminaire Tested: HVL8-1-LD4-1HI-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: P517724
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-1-LD4-1HI-30-UNV-C-EDD
Description: 1 FOOT, 8 INCH WIDE, HVL LED LUMINAIRE, WITH 3000K, 80 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1127.0 lumens
Efficiency: N/A
Efficacy: 105.3 lumens/watt
Spacing Criteria (0/90/45): 1.18 / 1.32 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.67' x L: 1' x H: 0.17')
CIE Type: Direct

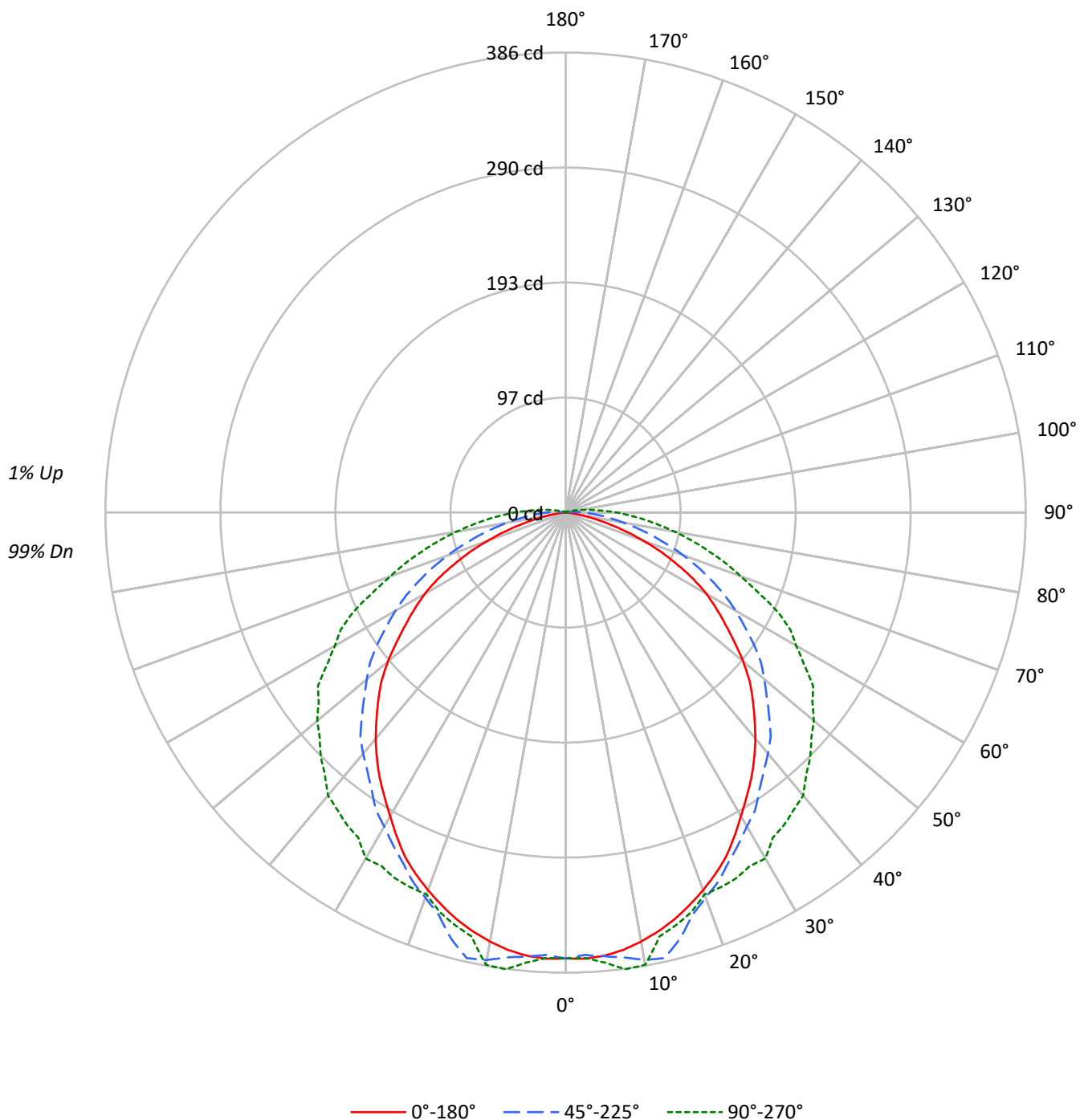
Input Watts (W): 10.7
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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	44	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°	6040	6040	6040
5°	5962	5905	6011
10°	5820	5941	6049
15°	5651	5738	5613
20°	5462	5335	5369
25°	5266	5067	5402
30°	5003	4845	5461
35°	4797	4634	5364
40°	4580	4465	5399
45°	4347	4259	5301
50°	4078	4045	5260
55°	3720	3818	5258
60°	3418	3521	5034
65°	2916	3177	4872
70°	2266	2750	4368
75°	1508	2249	3988
80°	755	1751	3580
85°	223	1251	3155

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 45°

Luminance: 5301 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	36.0	3.2
10°-20°	102.4	9.1
20°-30°	152.3	13.5
30°-40°	183.1	16.2
40°-50°	192.7	17.1
50°-60°	178.9	15.9
60°-70°	141.4	12.5
70°-80°	86.4	7.7
80°-90°	37.6	3.3
90°-100°	11.7	1.0
100°-110°	2.6	0.2
110°-120°	1.1	0.1
120°-130°	0.6	0.1
130°-140°	0.2	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°	290.7	25.8
0°-40°	473.8	42.0
0°-60°	845.4	75.0
0°-90°	1110.8	98.6
90°-120°	15.4	1.4
90°-150°	16.2	1.4
90°-180°	16.0	1.4
0°-180°	1127.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	374	374	374	374	374	
5°	373	372	374	378	379	35
15°	353	367	370	358	358	99
25°	319	339	324	333	339	146
35°	272	279	284	309	320	170
45°	222	223	242	280	290	171
55°	164	166	193	235	254	147
65°	104	107	136	180	196	103
75°	39	52	76	116	124	43
85°	4	12	30	57	66	5
90°	0	4	16	36	43	0
95°	0	1	7	20	24	0
105°	0	0	1	4	6	0
115°	0	0	1	2	2	0
125°	0	0	0	1	2	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°	374.1	374.1	374.1	374.1	374.1
2.5°	374.6	373.6	371.5	373.5	374.0
5°	373.2	372.4	373.7	377.9	379.0
7.5°	370.1	373.0	376.4	384.0	386.4
10°	365.4	370.9	381.2	387.7	385.2
12.5°	359.8	369.1	382.9	370.2	364.3
15°	353.2	366.8	370.4	358.1	358.3
17.5°	345.5	364.9	353.8	353.5	351.3
20°	337.2	358.5	343.8	343.2	340.9
22.5°	328.3	350.0	335.0	333.8	340.2
25°	318.6	339.0	323.5	333.2	338.6
27.5°	306.5	324.5	313.9	327.6	334.4
30°	294.2	309.6	304.1	323.2	335.2
32.5°	282.7	293.9	296.0	321.5	323.5
35°	271.8	279.4	283.6	309.3	319.8
37.5°	259.9	261.9	273.1	304.2	314.4
40°	247.7	246.4	264.2	295.8	309.9
42.5°	234.6	234.1	254.8	291.6	298.7
45°	222.1	223.1	241.5	279.8	290.2
47.5°	209.4	210.7	228.9	266.7	279.7
50°	194.6	196.3	217.6	255.1	271.8
52.5°	178.6	181.8	206.6	244.2	261.0
55°	163.6	166.3	192.7	234.8	253.5
57.5°	149.9	151.5	178.2	223.0	237.1
60°	136.4	136.8	164.7	209.9	223.4
62.5°	120.9	121.6	150.7	194.4	212.5
65°	103.6	106.8	135.7	179.6	195.9
67.5°	87.3	93.0	120.4	166.1	174.6
70°	70.0	79.6	105.4	150.1	156.1
72.5°	54.0	65.4	90.0	132.3	140.8
75°	39.2	51.9	75.7	116.3	123.6
77.5°	26.4	39.3	62.3	98.6	108.3
80°	15.8	28.7	50.3	82.2	93.1
82.5°	8.1	19.3	39.0	69.0	78.7
85°	3.5	12.2	29.5	57.2	65.7
87.5°	1.0	6.9	21.7	46.3	53.4
90°	0.1	3.7	15.5	36.3	42.8
92.5°	0.1	1.8	10.9	27.4	32.4
95°	0.1	0.9	6.8	19.9	24.3
97.5°	0.1	0.5	4.1	14.1	17.8
100°	0.1	0.5	2.4	9.4	12.7
102.5°	0.1	0.5	1.7	5.9	8.3
105°	0.1	0.5	1.4	3.9	5.5
107.5°	0.2	0.5	1.2	2.9	3.8
110°	0.1	0.5	1.3	2.2	3.0

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.2	0.4	1.2	1.8	2.2
115°	0.1	0.3	1.1	1.8	1.8
117.5°	0.2	0.2	0.8	1.8	1.8
120°	0.2	0.2	0.7	1.7	1.9
122.5°	0.2	0.2	0.5	1.5	1.8
125°	0.1	0.2	0.5	1.1	1.6
127.5°	0.2	0.2	0.4	0.9	1.2
130°	0.2	0.2	0.3	0.7	0.9
132.5°	0.2	0.2	0.2	0.5	0.7
135°	0.2	0.2	0.2	0.4	0.5
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)