

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: P517787

Luminaire Tested: HVL8-1-LD4-2LO-30-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: P517787
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-1-LD4-2LO-30-UNV-C-EDD-90
Description: 1 FOOT, 8 INCH WIDE, HVL LED LUMINAIRE, WITH 3000K, 90 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1119.0 lumens
Efficiency: N/A
Efficacy: 97.3 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

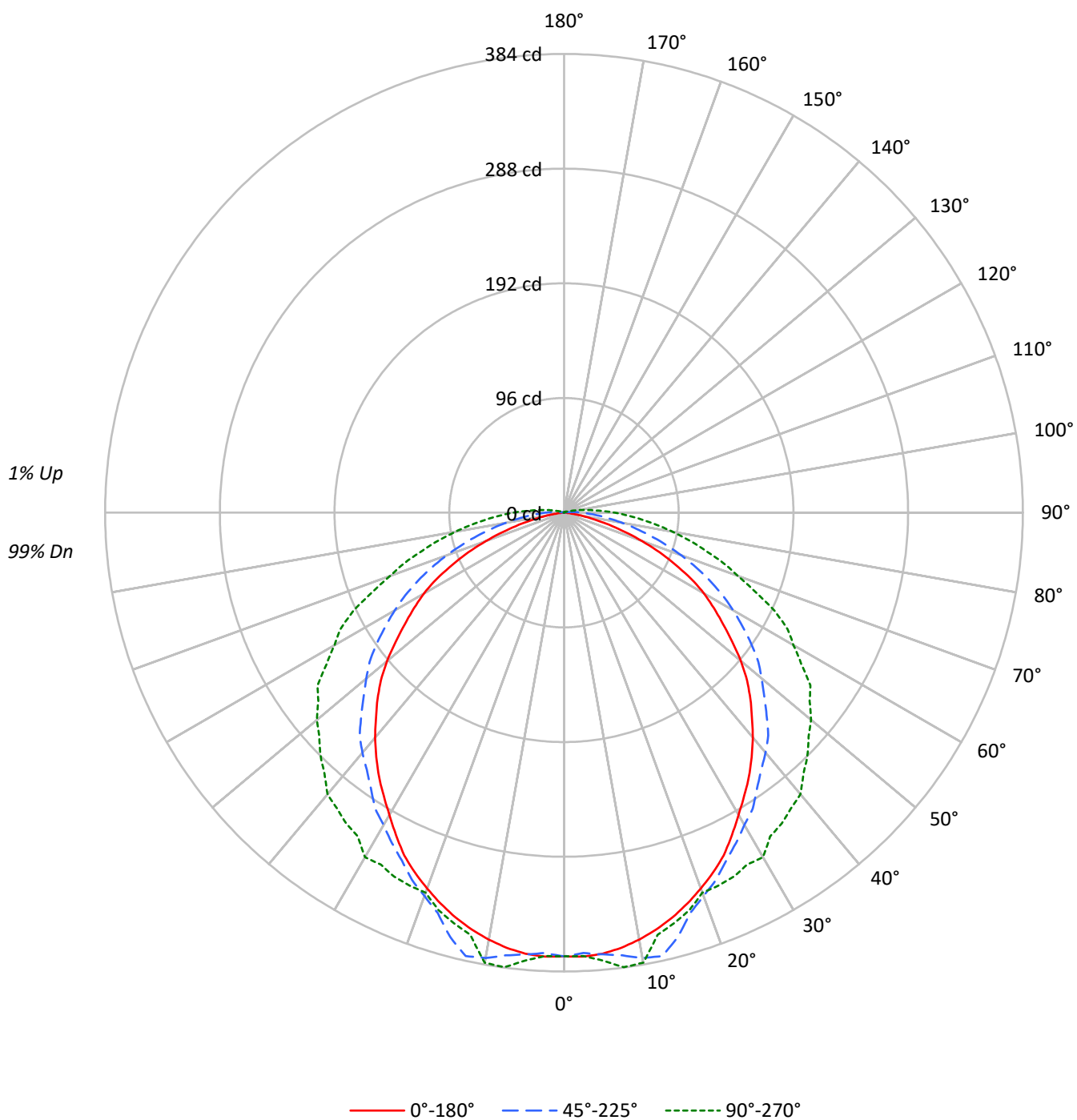
Input Watts (W): 11.5
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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°	5997	5997	5997
5°	5919	5863	5968
10°	5778	5899	6005
15°	5611	5696	5574
20°	5423	5298	5331
25°	5230	5031	5364
30°	4968	4810	5423
35°	4764	4601	5327
40°	4547	4432	5361
45°	4317	4229	5263
50°	4051	4015	5223
55°	3695	3790	5221
60°	3393	3496	4998
65°	2893	3156	4837
70°	2250	2729	4337
75°	1496	2231	3959
80°	750	1737	3557
85°	223	1243	3131

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 45°

Luminance: 5263 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	35.7	3.2
10°-20°	101.7	9.1
20°-30°	151.3	13.5
30°-40°	181.8	16.2
40°-50°	191.4	17.1
50°-60°	177.6	15.9
60°-70°	140.4	12.5
70°-80°	85.8	7.7
80°-90°	37.4	3.3
90°-100°	11.6	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°	288.6	25.8
0°-40°	470.5	42.0
0°-60°	839.4	75.0
0°-90°	1102.9	98.6
90°-120°	15.3	1.4
90°-150°	16.1	1.4
90°-180°	16.0	1.4
0°-180°	1119.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	371	371	371	371	371	
5°	370	370	371	375	376	35
15°	351	364	368	356	356	99
25°	316	337	321	331	336	145
35°	270	277	282	307	318	169
45°	221	222	240	278	288	170
55°	162	165	191	233	252	146
65°	103	106	135	178	194	102
75°	39	52	75	116	123	42
85°	4	12	29	57	65	5
90°	0	4	15	36	42	0
95°	0	1	7	20	24	0
105°	0	0	1	4	5	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°	371.4	371.4	371.4	371.4	371.4
2.5°	371.9	370.9	368.9	370.8	371.4
5°	370.5	369.8	371.1	375.2	376.3
7.5°	367.4	370.3	373.7	381.3	383.7
10°	362.8	368.3	378.5	384.9	382.4
12.5°	357.2	366.5	380.1	367.6	361.8
15°	350.7	364.2	367.7	355.6	355.8
17.5°	343.1	362.3	351.3	351.0	348.8
20°	334.8	355.9	341.4	340.8	338.5
22.5°	326.0	347.5	332.6	331.4	337.8
25°	316.4	336.6	321.2	330.8	336.2
27.5°	304.3	322.2	311.7	325.3	332.0
30°	292.1	307.4	301.9	320.9	332.9
32.5°	280.7	291.8	293.9	319.2	321.2
35°	269.9	277.4	281.6	307.1	317.6
37.5°	258.0	260.1	271.1	302.1	312.1
40°	245.9	244.6	262.3	293.7	307.7
42.5°	232.9	232.4	253.0	289.6	296.5
45°	220.6	221.6	239.8	277.8	288.1
47.5°	207.9	209.2	227.2	264.8	277.7
50°	193.3	194.9	216.0	253.3	269.9
52.5°	177.4	180.5	205.1	242.4	259.2
55°	162.5	165.1	191.3	233.1	251.7
57.5°	148.8	150.4	177.0	221.4	235.4
60°	135.4	135.8	163.5	208.4	221.8
62.5°	120.1	120.8	149.7	193.0	211.0
65°	102.8	106.1	134.8	178.3	194.5
67.5°	86.7	92.4	119.6	164.9	173.4
70°	69.5	79.1	104.6	149.1	155.0
72.5°	53.6	64.9	89.4	131.4	139.8
75°	38.9	51.5	75.1	115.5	122.7
77.5°	26.2	39.0	61.8	97.9	107.5
80°	15.7	28.5	49.9	81.6	92.5
82.5°	8.0	19.1	38.7	68.5	78.2
85°	3.5	12.1	29.3	56.8	65.2
87.5°	1.0	6.9	21.6	45.9	53.0
90°	0.1	3.6	15.4	36.0	42.4
92.5°	0.1	1.7	10.8	27.2	32.2
95°	0.1	0.9	6.7	19.7	24.1
97.5°	0.1	0.5	4.1	14.0	17.7
100°	0.1	0.5	2.4	9.3	12.6
102.5°	0.1	0.5	1.7	5.9	8.2
105°	0.1	0.5	1.4	3.9	5.4
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	1.7	1.8
117.5°	0.2	0.2	0.8	1.7	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)