

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: P518155

Luminaire Tested: HVL8-8-LD4-1HI-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: P518155
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-8-LD4-1HI-30-UNV-C-EDD-90
Description: 8 FOOT, 8 INCH WIDE, HVL LED LUMINAIRE, WITH 3000K, 90 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9013.0 lumens
Efficiency: N/A
Efficacy: 104.8 lumens/watt
Spacing Criteria (0/90/45): 1.18 / 1.32 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.67' x L: 8' x H: 0.17')
CIE Type: Direct

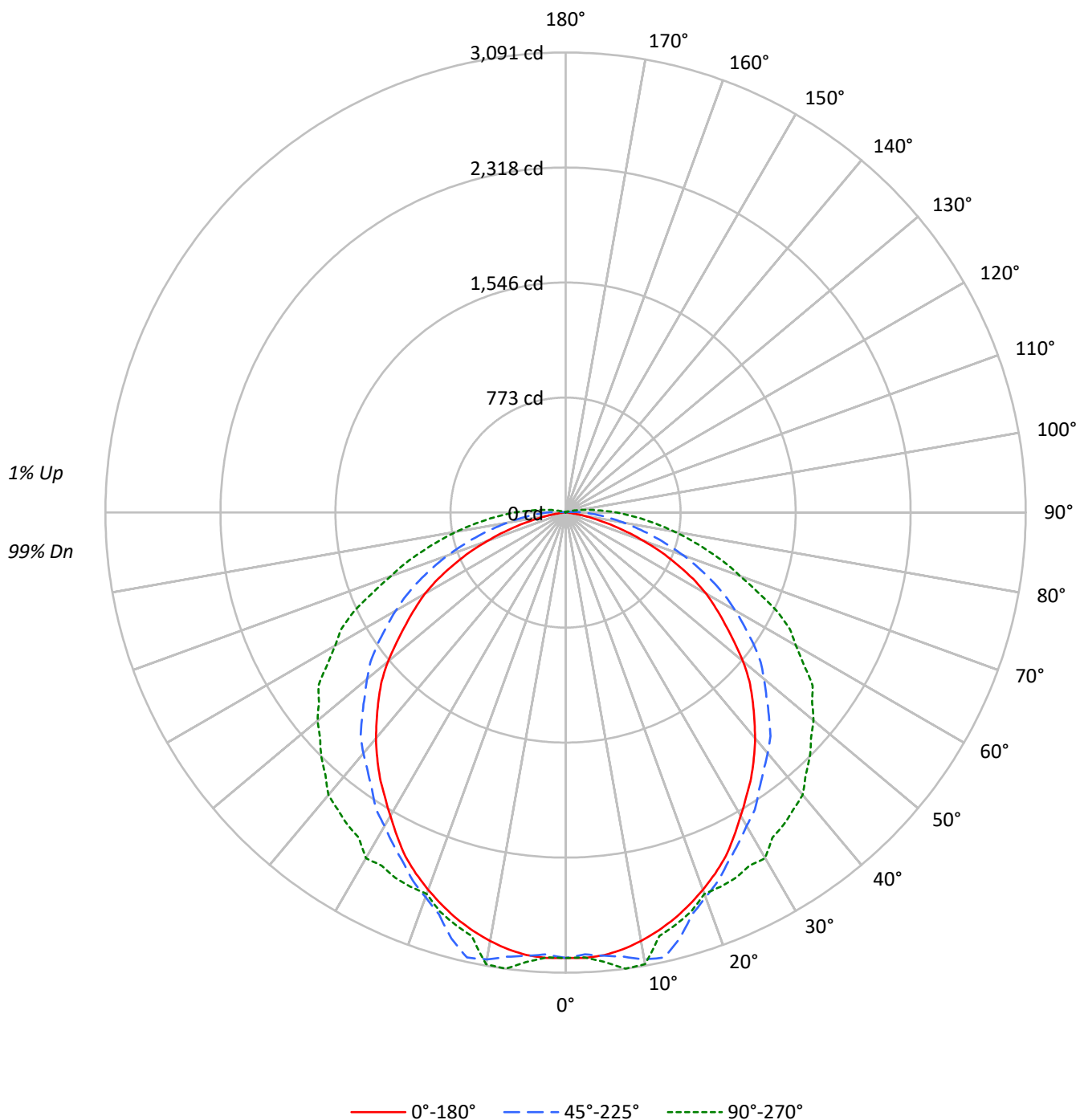
Input Watts (W): 86
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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°	6038	6038	6038
5°	6035	5955	6009
10°	5967	6043	6046
15°	5869	5887	5612
20°	5748	5521	5367
25°	5620	5289	5400
30°	5419	5103	5460
35°	5279	4927	5363
40°	5129	4796	5397
45°	4967	4626	5299
50°	4769	4448	5259
55°	4471	4257	5256
60°	4250	3992	5031
65°	3786	3674	4871
70°	3123	3259	4368
75°	2267	2752	3987
80°	1312	2241	3580
85°	524	1713	3154

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 45°

Luminance: 5299 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	287.5	3.2
10°-20°	818.9	9.1
20°-30°	1218.4	13.5
30°-40°	1464.5	16.2
40°-50°	1541.5	17.1
50°-60°	1430.3	15.9
60°-70°	1130.9	12.5
70°-80°	690.8	7.7
80°-90°	301.0	3.3
90°-100°	93.7	1.0
100°-110°	21.1	0.2
110°-120°	8.5	0.1
120°-130°	4.8	0.1
130°-140°	1.3	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°	2324.8	25.8
0°-40°	3789.3	42.0
0°-60°	6761.1	75.0
0°-90°	8883.7	98.6
90°-120°	123.2	1.4
90°-150°	129.2	1.4
90°-180°	129.0	1.4
0°-180°	9013.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2992	2992	2992	2992	2992	
5°	2984	2978	2989	3022	3031	283
15°	2825	2933	2962	2864	2866	796
25°	2548	2711	2587	2664	2708	1170
35°	2174	2234	2268	2474	2558	1359
45°	1777	1784	1931	2237	2321	1369
55°	1308	1330	1541	1878	2027	1176
65°	828	854	1085	1436	1567	820
75°	313	415	605	930	988	342
85°	28	98	236	458	525	43
90°	1	29	124	290	342	1
95°	1	7	54	159	194	0
105°	1	4	11	31	44	1
115°	1	2	8	14	15	1
125°	1	1	4	9	13	1
135°	1	1	1	3	4	1
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°	2991.8	2991.8	2991.8	2991.8	2991.8
2.5°	2995.5	2987.6	2971.1	2987.0	2991.2
5°	2984.5	2978.4	2988.8	3022.3	3030.8
7.5°	2959.5	2982.7	3010.1	3071.1	3090.6
10°	2922.3	2966.2	3048.5	3100.3	3080.2
12.5°	2877.2	2951.6	3061.9	2960.7	2913.8
15°	2824.8	2933.3	2962.0	2863.8	2865.7
17.5°	2763.3	2918.1	2829.7	2827.3	2809.6
20°	2696.8	2866.9	2749.9	2745.0	2726.1
22.5°	2625.5	2799.2	2679.2	2669.4	2720.6
25°	2548.1	2710.9	2587.1	2664.5	2707.8
27.5°	2451.2	2595.1	2510.4	2620.1	2674.3
30°	2353.1	2475.6	2431.7	2584.7	2681.0
32.5°	2261.1	2350.7	2367.1	2571.3	2587.1
35°	2173.9	2234.3	2267.8	2473.8	2557.9
37.5°	2078.2	2094.7	2183.7	2433.0	2514.0
40°	1980.7	1970.4	2113.0	2365.9	2478.1
42.5°	1875.9	1872.3	2038.0	2332.4	2388.5
45°	1776.6	1784.5	1931.4	2237.3	2320.8
47.5°	1674.8	1685.1	1830.2	2133.1	2236.7
50°	1556.6	1570.0	1740.0	2040.5	2173.9
52.5°	1428.6	1454.2	1652.2	1952.7	2087.4
55°	1308.5	1329.8	1540.7	1877.7	2027.1
57.5°	1198.8	1211.6	1425.5	1783.3	1896.0
60°	1090.9	1094.0	1317.0	1678.4	1786.3
62.5°	967.2	972.7	1205.5	1554.7	1699.2
65°	828.3	854.5	1085.4	1436.5	1566.9
67.5°	698.4	744.1	962.9	1328.0	1396.3
70°	559.5	636.9	842.9	1200.6	1248.8
72.5°	432.1	522.9	719.8	1058.0	1125.7
75°	313.3	415.0	605.2	930.0	988.5
77.5°	210.9	314.5	497.9	788.6	866.0
80°	126.2	229.8	402.2	657.6	744.8
82.5°	64.6	154.2	312.0	551.6	629.6
85°	28.0	97.5	235.9	457.7	525.4
87.5°	7.9	55.5	173.7	369.9	427.2
90°	0.6	29.3	123.7	290.1	341.9
92.5°	0.6	14.0	87.2	219.4	259.0
95°	0.6	7.3	54.2	159.1	194.4
97.5°	0.6	4.3	32.9	112.7	142.6
100°	0.6	3.7	19.5	75.0	101.8
102.5°	0.6	4.3	13.4	47.5	66.4
105°	0.6	4.3	11.0	31.1	43.9
107.5°	1.2	4.3	9.8	23.2	30.5
110°	0.6	3.7	10.4	17.7	23.8

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	1.2	3.0	9.8	14.6	17.7
115°	0.6	2.4	8.5	14.0	14.6
117.5°	1.2	1.8	6.7	14.0	14.6
120°	1.2	1.2	5.5	13.4	15.2
122.5°	1.2	1.2	4.3	12.2	14.6
125°	0.6	1.2	3.7	9.1	12.8
127.5°	1.2	1.2	3.0	7.3	9.8
130°	1.2	1.2	2.4	5.5	7.3
132.5°	1.2	1.2	1.8	4.3	5.5
135°	1.2	1.2	1.2	3.0	4.3
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)