

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: P518220

Luminaire Tested: HVL8-8-LD4-2LO-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: P518220
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-8-LD4-2LO-30-UNV-C-EDD
Description: 8 FOOT, 8 INCH WIDE, HVL LED LUMINAIRE, WITH 3000K, 80 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8948.0 lumens
Efficiency: N/A
Efficacy: 97.0 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

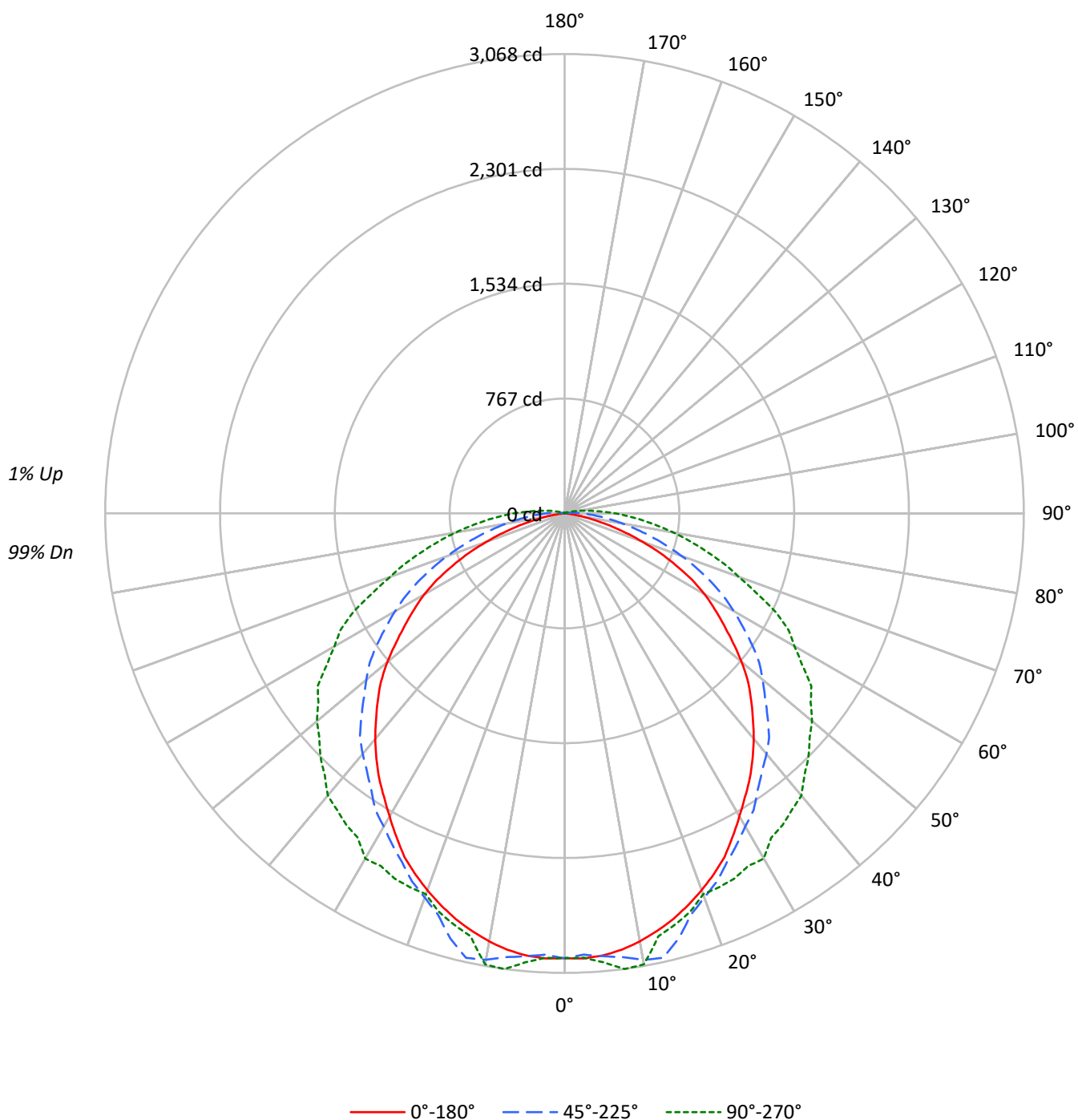
Input Watts (W): 92.2
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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°	5995	5995	5995
5°	5992	5912	5966
10°	5924	6000	6002
15°	5827	5844	5571
20°	5707	5481	5328
25°	5579	5251	5361
30°	5379	5066	5420
35°	5241	4891	5324
40°	5092	4761	5358
45°	4932	4593	5261
50°	4734	4416	5221
55°	4439	4226	5218
60°	4220	3963	4995
65°	3759	3648	4836
70°	3100	3235	4337
75°	2250	2732	3959
80°	1301	2224	3554
85°	520	1700	3131

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 45°

Luminance: 5261 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	285.5	3.2
10°-20°	813.0	9.1
20°-30°	1209.6	13.5
30°-40°	1453.9	16.2
40°-50°	1530.4	17.1
50°-60°	1420.0	15.9
60°-70°	1122.7	12.5
70°-80°	685.8	7.7
80°-90°	298.8	3.3
90°-100°	93.0	1.0
100°-110°	20.9	0.2
110°-120°	8.4	0.1
120°-130°	4.7	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°	2308.0	25.8
0°-40°	3762.0	42.0
0°-60°	6712.3	75.0
0°-90°	8819.7	98.6
90°-120°	122.3	1.4
90°-150°	128.3	1.4
90°-180°	128.0	1.4
0°-180°	8948.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2970	2970	2970	2970	2970	
5°	2963	2957	2967	3000	3009	281
15°	2804	2912	2941	2843	2845	790
25°	2530	2691	2568	2645	2688	1161
35°	2158	2218	2251	2456	2539	1349
45°	1764	1772	1917	2221	2304	1360
55°	1299	1320	1530	1864	2012	1167
65°	822	848	1078	1426	1556	814
75°	311	412	601	923	981	339
85°	28	97	234	454	522	43
90°	1	29	123	288	339	1
95°	1	7	54	158	193	0
105°	1	4	11	31	44	1
115°	1	2	8	14	14	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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CATALOG NUMBER: HVL8-8-LD4-2LO-30-UNV-C-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2970.2	2970.2	2970.2	2970.2	2970.2
2.5°	2973.9	2966.0	2949.7	2965.4	2969.6
5°	2963.0	2956.9	2967.2	3000.5	3009.0
7.5°	2938.2	2961.2	2988.4	3048.9	3068.3
10°	2901.3	2944.8	3026.5	3078.0	3058.0
12.5°	2856.5	2930.3	3039.8	2939.4	2892.8
15°	2804.5	2912.2	2940.6	2843.2	2845.0
17.5°	2743.4	2897.0	2809.3	2806.9	2789.3
20°	2677.4	2846.2	2730.0	2725.2	2706.4
22.5°	2606.6	2779.0	2659.9	2650.2	2701.0
25°	2529.8	2691.3	2568.5	2645.3	2688.3
27.5°	2433.6	2576.4	2492.3	2601.2	2655.0
30°	2336.1	2457.8	2414.2	2566.1	2661.7
32.5°	2244.8	2333.7	2350.1	2552.8	2568.5
35°	2158.3	2218.2	2251.4	2455.9	2539.4
37.5°	2063.3	2079.6	2167.9	2415.4	2495.9
40°	1966.5	1956.2	2097.7	2348.9	2460.2
42.5°	1862.4	1858.8	2023.3	2315.6	2371.2
45°	1763.8	1771.6	1917.4	2221.2	2304.1
47.5°	1662.7	1673.0	1817.0	2117.7	2220.6
50°	1545.3	1558.6	1727.5	2025.7	2158.3
52.5°	1418.3	1443.7	1640.3	1938.6	2072.3
55°	1299.1	1320.2	1529.6	1864.2	2012.4
57.5°	1190.2	1202.9	1415.2	1770.4	1882.3
60°	1083.1	1086.1	1307.5	1666.3	1773.4
62.5°	960.2	965.7	1196.8	1543.5	1686.9
65°	822.3	848.3	1077.6	1426.1	1555.6
67.5°	693.4	738.8	956.0	1318.4	1386.2
70°	555.4	632.3	836.8	1192.0	1239.8
72.5°	429.0	519.1	714.6	1050.4	1117.5
75°	311.0	412.0	600.8	923.3	981.4
77.5°	209.4	312.2	494.3	783.0	859.8
80°	125.2	228.1	399.3	652.9	739.4
82.5°	64.1	153.1	309.8	547.6	625.0
85°	27.8	96.8	234.2	454.4	521.6
87.5°	7.9	55.1	172.4	367.3	424.1
90°	0.6	29.0	122.8	288.0	339.4
92.5°	0.6	13.9	86.5	217.8	257.2
95°	0.6	7.3	53.9	157.9	193.0
97.5°	0.6	4.2	32.7	111.9	141.6
100°	0.6	3.6	19.4	74.4	101.0
102.5°	0.6	4.2	13.3	47.2	66.0
105°	0.6	4.2	10.9	30.9	43.6
107.5°	1.2	4.2	9.7	23.0	30.3
110°	0.6	3.6	10.3	17.5	23.6

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	1.2	3.0	9.7	14.5	17.5
115°	0.6	2.4	8.5	13.9	14.5
117.5°	1.2	1.8	6.7	13.9	14.5
120°	1.2	1.2	5.4	13.3	15.1
122.5°	1.2	1.2	4.2	12.1	14.5
125°	0.6	1.2	3.6	9.1	12.7
127.5°	1.2	1.2	3.0	7.3	9.7
130°	1.2	1.2	2.4	5.4	7.3
132.5°	1.2	1.2	1.8	4.2	5.4
135°	1.2	1.2	1.2	3.0	4.2
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)