

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: P517644

Luminaire Tested: HVL12-8-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: P517644
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL12-8-LD4-2LO-30-UNV-C-EDD
Description: 8 FOOT, 12 INCH WIDE, HVL LED LUMINAIRE, WITH 3000K, 80 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9342.0 lumens
Efficiency: N/A
Efficacy: 98.6 lumens/watt
Spacing Criteria (0/90/45): 1.18 / 1.32 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 1' x L: 8' x H: 0.17')
CIE Type: Direct

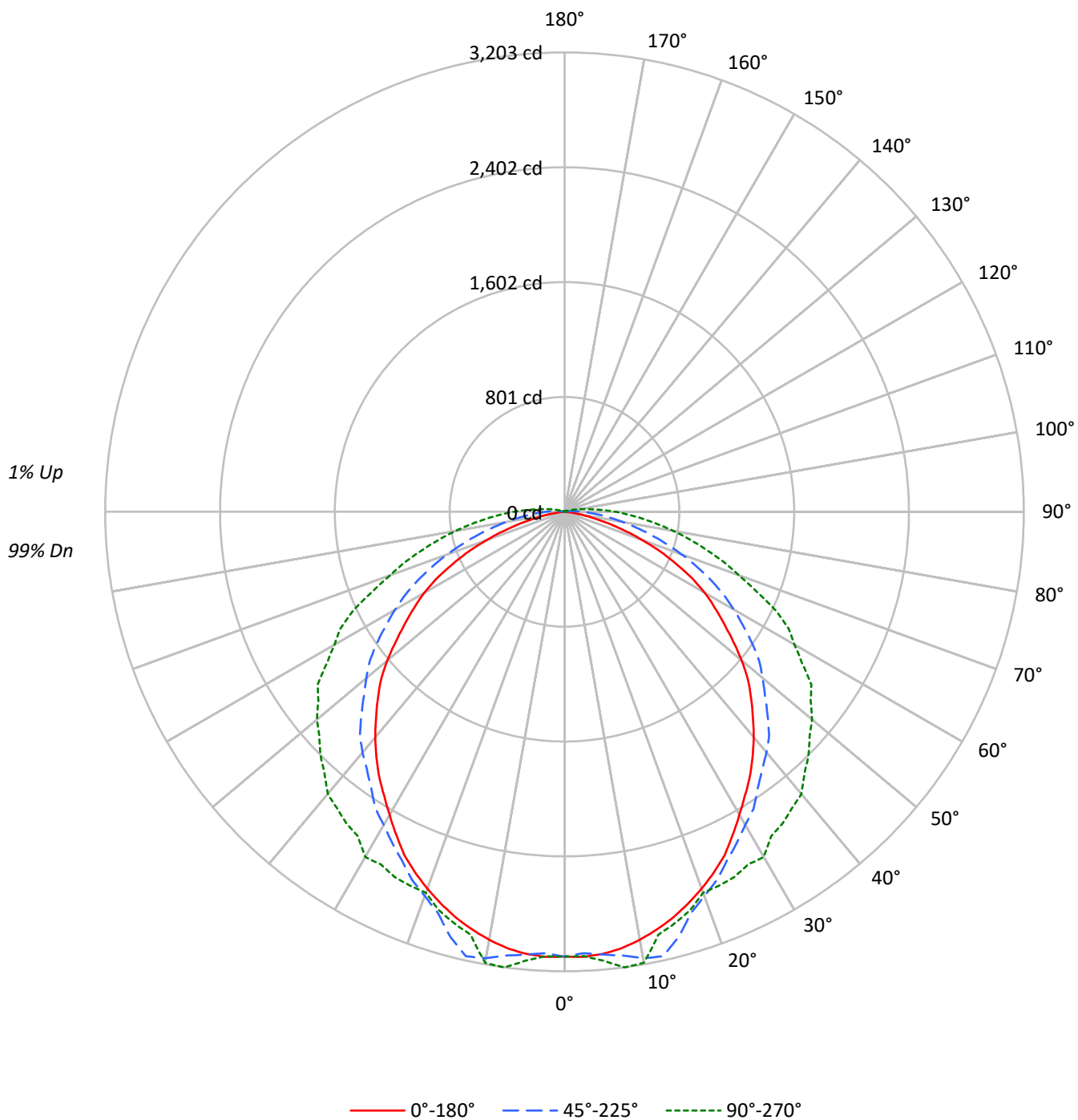
Input Watts (W): 94.7
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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	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°	4172	4172	4172
5°	4171	4136	4182
10°	4123	4218	4237
15°	4056	4130	3961
20°	3972	3893	3814
25°	3883	3749	3866
30°	3744	3637	3938
35°	3648	3533	3900
40°	3544	3462	3958
45°	3432	3363	3923
50°	3295	3260	3935
55°	3090	3150	3981
60°	2937	2987	3866
65°	2616	2789	3809
70°	2158	2519	3493
75°	1566	2181	3284
80°	906	1844	3074
85°	363	1500	2893

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 55°

Luminance: 3981 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	298.0	3.2
10°-20°	848.8	9.1
20°-30°	1262.9	13.5
30°-40°	1518.0	16.2
40°-50°	1597.7	17.1
50°-60°	1482.5	15.9
60°-70°	1172.2	12.5
70°-80°	716.0	7.7
80°-90°	312.0	3.3
90°-100°	97.1	1.0
100°-110°	21.8	0.2
110°-120°	8.8	0.1
120°-130°	4.9	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°	2409.7	25.8
0°-40°	3927.6	42.0
0°-60°	7007.9	75.0
0°-90°	9208.0	98.6
90°-120°	127.7	1.4
90°-150°	134.0	1.4
90°-180°	134.0	1.4
0°-180°	9342.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3101	3101	3101	3101	3101	
5°	3094	3087	3098	3133	3142	293
15°	2928	3040	3070	2968	2970	825
25°	2641	2810	2682	2762	2807	1213
35°	2253	2316	2351	2564	2651	1408
45°	1841	1850	2002	2319	2406	1419
55°	1356	1378	1597	1946	2101	1219
65°	858	886	1125	1489	1624	850
75°	325	430	627	964	1025	354
85°	29	101	244	474	544	45
90°	1	30	128	301	354	1
95°	1	8	56	165	202	0
105°	1	4	11	32	46	1
115°	1	2	9	14	15	1
125°	1	1	4	10	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

TEST NUMBER: P517644

CATALOG NUMBER: HVL12-8-LD4-2LO-30-UNV-C-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3101.0	3101.0	3101.0	3101.0	3101.0
2.5°	3104.8	3096.6	3079.6	3096.0	3100.4
5°	3093.5	3087.1	3097.9	3132.6	3141.5
7.5°	3067.6	3091.6	3120.0	3183.2	3203.4
10°	3029.0	3074.5	3159.8	3213.5	3192.6
12.5°	2982.3	3059.3	3173.7	3068.8	3020.2
15°	2927.9	3040.4	3070.1	2968.4	2970.3
17.5°	2864.1	3024.6	2933.0	2930.5	2912.2
20°	2795.3	2971.5	2850.2	2845.2	2825.6
22.5°	2721.4	2901.4	2777.0	2766.9	2819.9
25°	2641.2	2809.8	2681.6	2761.8	2806.7
27.5°	2540.7	2689.8	2602.0	2715.7	2771.9
30°	2439.0	2566.0	2520.5	2679.1	2778.9
32.5°	2343.6	2436.5	2453.5	2665.2	2681.6
35°	2253.3	2315.8	2350.6	2564.1	2651.3
37.5°	2154.1	2171.2	2263.4	2521.8	2605.8
40°	2053.0	2042.3	2190.1	2452.3	2568.5
42.5°	1944.4	1940.6	2112.4	2417.5	2475.6
45°	1841.4	1849.6	2001.9	2319.0	2405.5
47.5°	1735.9	1746.7	1897.0	2211.0	2318.4
50°	1613.4	1627.3	1803.5	2114.9	2253.3
52.5°	1480.7	1507.2	1712.6	2024.0	2163.6
55°	1356.3	1378.4	1596.9	1946.3	2101.0
57.5°	1242.6	1255.8	1477.6	1848.4	1965.2
60°	1130.8	1133.9	1365.1	1739.7	1851.5
62.5°	1002.5	1008.2	1249.5	1611.5	1761.2
65°	858.5	885.6	1125.1	1488.9	1624.1
67.5°	723.9	771.3	998.1	1376.5	1447.2
70°	579.9	660.1	873.6	1244.5	1294.4
72.5°	447.9	542.0	746.0	1096.6	1166.8
75°	324.7	430.2	627.3	964.0	1024.6
77.5°	218.6	326.0	516.1	817.4	897.7
80°	130.8	238.2	416.9	681.6	771.9
82.5°	67.0	159.8	323.4	571.7	652.6
85°	29.1	101.1	244.5	474.4	544.5
87.5°	8.2	57.5	180.0	383.4	442.8
90°	0.6	30.3	128.2	300.7	354.4
92.5°	0.6	14.5	90.3	227.4	268.5
95°	0.6	7.6	56.2	164.9	201.5
97.5°	0.6	4.4	34.1	116.9	147.8
100°	0.6	3.8	20.2	77.7	105.5
102.5°	0.6	4.4	13.9	49.3	68.9
105°	0.6	4.4	11.4	32.2	45.5
107.5°	1.3	4.4	10.1	24.0	31.6
110°	0.6	3.8	10.7	18.3	24.6

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CATALOG NUMBER: HVL12-8-LD4-2LO-30-UNV-C-EDD

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	1.3	3.2	10.1	15.2	18.3
115°	0.6	2.5	8.8	14.5	15.2
117.5°	1.3	1.9	6.9	14.5	15.2
120°	1.3	1.3	5.7	13.9	15.8
122.5°	1.3	1.3	4.4	12.6	15.2
125°	0.6	1.3	3.8	9.5	13.3
127.5°	1.3	1.3	3.2	7.6	10.1
130°	1.3	1.3	2.5	5.7	7.6
132.5°	1.3	1.3	1.9	4.4	5.7
135°	1.3	1.3	1.3	3.2	4.4
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)