

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: P517646

Luminaire Tested: HVL12-8-LD4-2LO-30-UNV-O-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: P517646
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-O-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: 8459.0 lumens
Efficiency: N/A
Efficacy: 89.3 lumens/watt
Spacing Criteria (0/90/45): 1.25 / 1.27 / 1.38
Luminous Opening: Rectangular w/ Sides (W: 1' x L: 8' x H: 0.17')
CIE Type: Direct

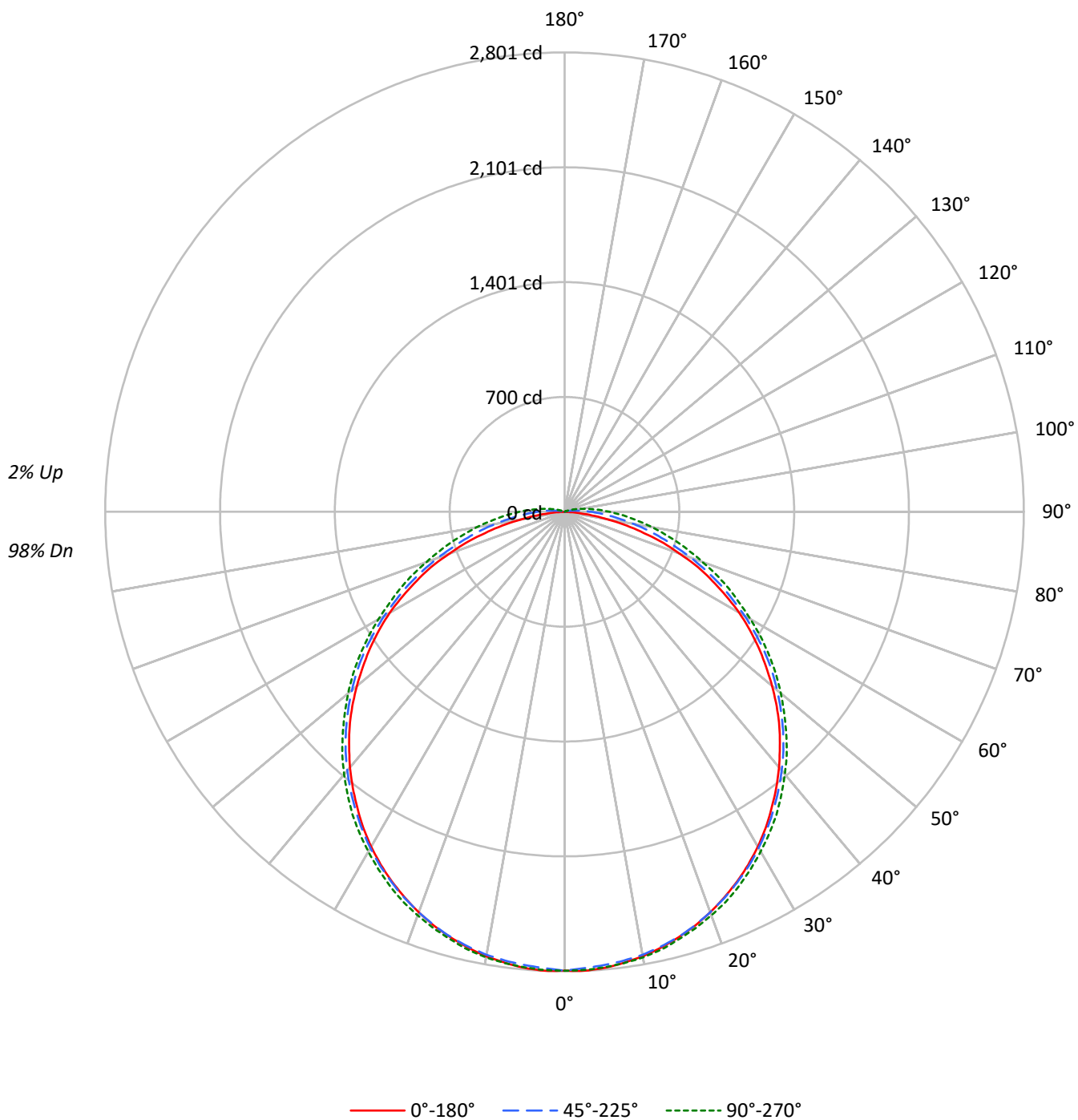
Input Watts (W): 94.7
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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	30	10	50	30	10
RCR																				
0	119	119	119	119	116	116	116	116	110	110	110	105	105	105	101	101	101			98
1	108	102	98	94	105	100	96	92	95	92	89	91	88	86	87	85	83			81
2	98	89	82	76	95	87	80	75	83	77	73	79	75	71	76	72	69			67
3	89	78	69	63	86	76	68	62	73	66	61	70	64	59	67	62	58			56
4	81	69	60	53	79	67	59	52	65	57	52	62	56	51	60	54	50			47
5	75	61	52	45	72	60	52	45	58	50	44	56	49	44	54	48	43			41
6	69	55	46	40	67	54	46	39	52	45	39	50	44	38	49	43	38			36
7	64	50	41	35	62	49	41	35	47	40	34	46	39	34	44	38	34			32
8	59	46	37	31	58	45	37	31	43	36	31	42	35	30	41	35	30			28
9	55	42	34	28	54	41	33	28	40	33	28	39	32	27	38	32	27			25
10	52	39	31	25	51	38	30	25	37	30	25	36	29	25	35	29	25			23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3764	3764	3764
5°	3764	3704	3710
10°	3746	3660	3662
15°	3720	3609	3597
20°	3693	3549	3534
25°	3659	3486	3469
30°	3619	3417	3391
35°	3566	3340	3315
40°	3512	3257	3222
45°	3454	3167	3119
50°	3377	3059	3008
55°	3295	2940	2884
60°	3196	2777	2735
65°	3029	2593	2591
70°	2783	2371	2420
75°	2427	2128	2279
80°	1883	1902	2172
85°	1086	1696	2113

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 3454 cd/sqm

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

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	264.8	3.1
10°-20°	759.4	9.0
20°-30°	1152.3	13.6
30°-40°	1393.3	16.5
40°-50°	1453.8	17.2
50°-60°	1329.2	15.7
60°-70°	1036.2	12.2
70°-80°	648.2	7.7
80°-90°	294.4	3.5
90°-100°	98.7	1.2
100°-110°	24.8	0.3
110°-120°	3.9	0.0
120°-130°	0.0	0.0
130°-140°	0.0	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°	2176.5	25.7
0°-40°	3569.8	42.2
0°-60°	6352.8	75.1
0°-90°	8331.6	98.5
90°-120°	127.4	1.5
90°-150°	127.4	1.5
90°-180°	127.0	1.5
0°-180°	8459.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2798	2798	2798	2798	2798	
5°	2792	2786	2774	2787	2787	265
15°	2686	2690	2683	2698	2698	758
25°	2488	2490	2493	2514	2518	1147
35°	2203	2213	2222	2244	2254	1379
45°	1853	1870	1885	1903	1913	1428
55°	1446	1464	1490	1512	1522	1292
65°	994	1011	1046	1088	1105	983
75°	503	534	612	685	711	536
85°	87	161	276	365	398	110
90°	1	60	163	245	274	3
95°	1	16	84	153	177	1
105°	1	2	14	41	55	1
115°	2	2	3	7	11	1
125°	0	0	0	0	0	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°	2797.7	2797.7	2797.7	2797.7	2797.7
2.5°	2801.0	2797.1	2784.5	2797.1	2796.4
5°	2791.8	2786.5	2774.0	2787.2	2787.2
7.5°	2773.3	2771.3	2760.1	2775.3	2775.3
10°	2751.6	2750.9	2741.7	2758.2	2758.8
12.5°	2721.2	2723.9	2715.3	2731.1	2733.1
15°	2685.6	2690.2	2683.0	2698.1	2697.5
17.5°	2646.7	2649.3	2644.1	2661.2	2660.5
20°	2598.5	2601.8	2597.9	2615.7	2617.7
22.5°	2545.1	2549.7	2549.1	2567.6	2572.8
25°	2488.4	2490.4	2493.0	2514.1	2518.1
27.5°	2425.8	2429.0	2433.7	2452.8	2456.7
30°	2357.2	2362.4	2367.7	2387.5	2392.8
32.5°	2284.6	2289.9	2296.5	2322.2	2324.8
35°	2202.8	2212.7	2222.0	2244.4	2253.6
37.5°	2121.0	2133.6	2142.2	2165.9	2173.2
40°	2034.7	2047.2	2061.0	2086.1	2090.7
42.5°	1944.3	1958.8	1975.3	1997.7	2005.6
45°	1853.3	1869.8	1884.9	1903.4	1912.6
47.5°	1755.0	1771.5	1790.0	1811.1	1817.0
50°	1653.4	1672.6	1692.4	1712.1	1722.7
52.5°	1549.2	1572.3	1594.7	1615.8	1625.7
55°	1446.3	1463.5	1490.5	1512.3	1522.2
57.5°	1339.5	1354.0	1378.4	1414.0	1419.3
60°	1230.7	1243.9	1268.9	1298.0	1309.8
62.5°	1110.6	1128.5	1154.8	1191.8	1202.3
65°	993.9	1011.1	1046.0	1087.6	1104.7
67.5°	881.1	887.1	931.9	975.4	1003.1
70°	747.9	770.3	822.4	875.9	897.0
72.5°	633.1	655.6	713.0	775.6	802.0
75°	503.2	534.2	612.0	685.3	711.0
77.5°	389.1	423.4	519.7	593.6	623.3
80°	271.7	325.1	430.0	513.1	545.4
82.5°	170.8	236.8	348.9	435.9	464.3
85°	87.1	160.9	276.3	365.4	397.7
87.5°	23.1	104.2	215.0	300.1	333.1
90°	0.7	60.0	162.9	244.7	274.4
92.5°	0.7	33.6	121.4	194.6	224.9
95°	0.7	15.8	84.4	153.0	176.8
97.5°	0.7	6.6	58.0	115.4	139.2
100°	0.7	3.3	36.9	83.8	104.2
102.5°	1.3	2.0	23.1	60.0	76.5
105°	1.3	2.0	13.9	40.9	54.7
107.5°	1.3	2.0	7.9	27.7	37.6
110°	2.0	2.0	4.6	17.1	25.1

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	2.0	2.0	2.6	11.2	16.5
115°	2.0	2.0	2.6	7.3	10.6
117.5°	0.0	0.0	0.0	0.0	0.0
120°	0.0	0.0	0.0	0.0	0.0
122.5°	0.0	0.0	0.0	0.0	0.0
125°	0.0	0.0	0.0	0.0	0.0
127.5°	0.0	0.0	0.0	0.0	0.0
130°	0.0	0.0	0.0	0.0	0.0
132.5°	0.0	0.0	0.0	0.0	0.0
135°	0.0	0.0	0.0	0.0	0.0
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)