

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: P517592

Luminaire Tested: HVL12-8-LD4-1HI-50-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: P517592
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL12-8-LD4-1HI-50-UNV-C-EDD
Description: 8 FOOT, 12 INCH WIDE, HVL LED LUMINAIRE, WITH 5000K, 80 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8825.0 lumens
Efficiency: N/A
Efficacy: 99.9 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

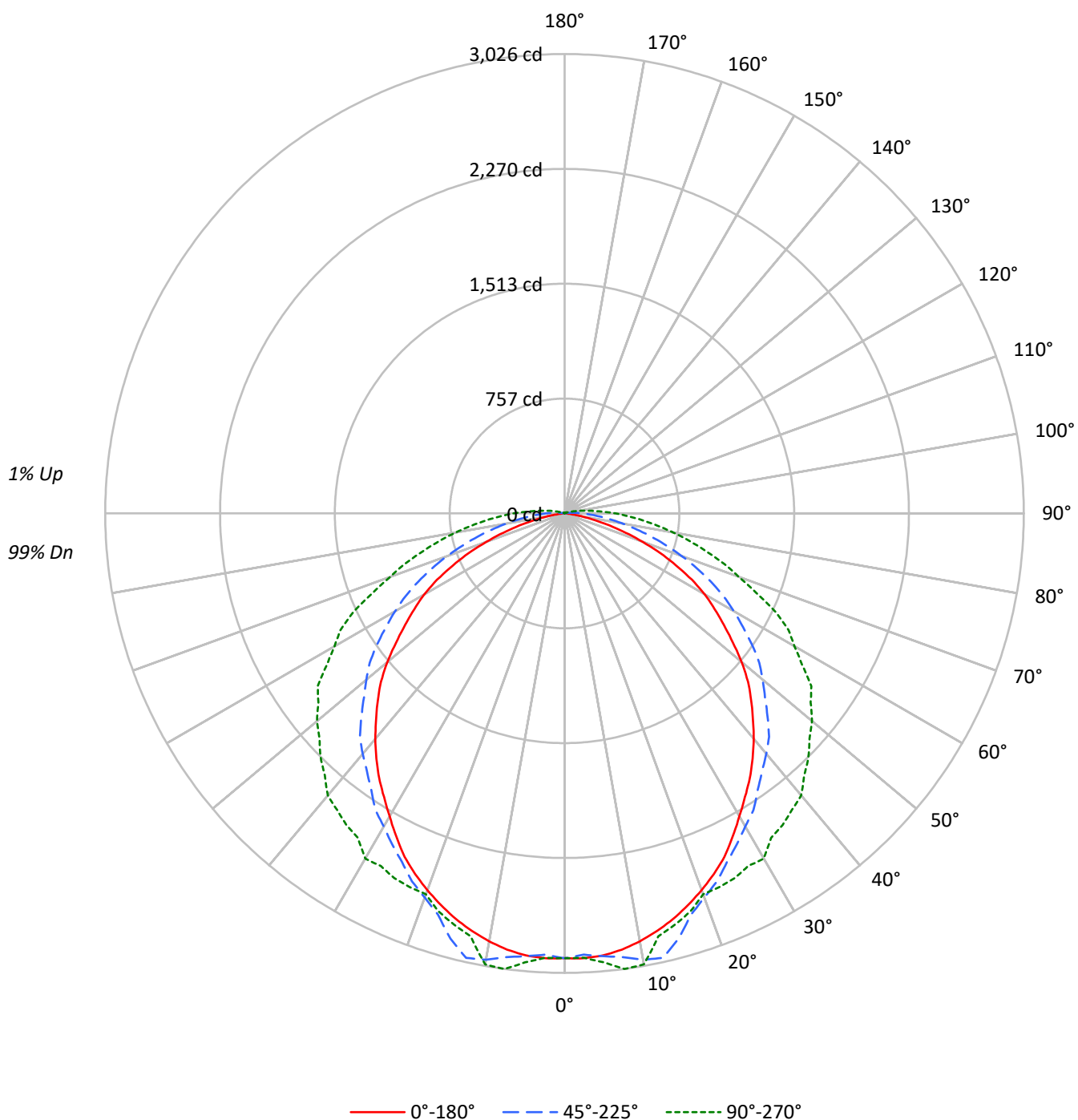
Input Watts (W): 88.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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			99
1	108	103	98	94	105	100	96	92	96	92	89	91	89	86	87	85	83			81
2	98	89	82	76	95	87	80	75	83	78	73	80	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	51	62	56	51	60	54	50			47
5	75	61	52	45	72	60	51	45	58	50	44	56	49	44	54	48	43			41
6	69	55	46	39	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°	3941	3941	3941
5°	3940	3907	3951
10°	3895	3985	4003
15°	3831	3901	3741
20°	3752	3678	3603
25°	3668	3542	3652
30°	3537	3436	3720
35°	3446	3337	3684
40°	3348	3270	3739
45°	3242	3177	3706
50°	3113	3080	3717
55°	2919	2975	3761
60°	2774	2822	3652
65°	2472	2634	3598
70°	2038	2380	3299
75°	1479	2061	3102
80°	856	1742	2904
85°	343	1417	2733

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 55°

Luminance: 3761 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	281.5	3.2
10°-20°	801.8	9.1
20°-30°	1193.0	13.5
30°-40°	1433.9	16.2
40°-50°	1509.3	17.1
50°-60°	1400.5	15.9
60°-70°	1107.3	12.5
70°-80°	676.4	7.7
80°-90°	294.7	3.3
90°-100°	91.7	1.0
100°-110°	20.6	0.2
110°-120°	8.3	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°	2276.3	25.8
0°-40°	3710.2	42.0
0°-60°	6620.0	75.0
0°-90°	8698.5	98.6
90°-120°	120.6	1.4
90°-150°	126.6	1.4
90°-180°	127.0	1.4
0°-180°	8825.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2929	2929	2929	2929	2929	
5°	2922	2916	2926	2959	2968	277
15°	2766	2872	2900	2804	2806	779
25°	2495	2654	2533	2609	2651	1145
35°	2129	2188	2220	2422	2504	1330
45°	1740	1747	1891	2191	2272	1341
55°	1281	1302	1509	1839	1985	1151
65°	811	837	1063	1406	1534	803
75°	307	406	593	911	968	335
85°	28	96	231	448	514	43
90°	1	29	121	284	335	1
95°	1	7	53	156	190	0
105°	1	4	11	30	43	1
115°	1	2	8	14	14	1
125°	1	1	4	9	12	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: HVL12-8-LD4-1HI-50-UNV-C-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2929.4	2929.4	2929.4	2929.4	2929.4
2.5°	2933.0	2925.2	2909.1	2924.6	2928.8
5°	2922.3	2916.3	2926.4	2959.3	2967.6
7.5°	2897.8	2920.5	2947.3	3007.0	3026.1
10°	2861.4	2904.4	2984.9	3035.6	3015.9
12.5°	2817.2	2890.0	2998.0	2899.0	2853.0
15°	2765.9	2872.1	2900.2	2804.1	2805.9
17.5°	2705.6	2857.2	2770.7	2768.3	2751.0
20°	2640.6	2807.1	2692.5	2687.7	2669.2
22.5°	2570.8	2740.8	2623.3	2613.7	2663.9
25°	2495.0	2654.3	2533.2	2609.0	2651.3
27.5°	2400.1	2540.9	2458.0	2565.4	2618.5
30°	2304.0	2424.0	2381.0	2530.8	2625.1
32.5°	2213.9	2301.6	2317.8	2517.7	2533.2
35°	2128.6	2187.7	2220.5	2422.2	2504.5
37.5°	2034.9	2051.0	2138.1	2382.2	2461.6
40°	1939.4	1929.3	2068.9	2316.6	2426.4
42.5°	1836.8	1833.2	1995.5	2283.7	2338.6
45°	1739.5	1747.3	1891.1	2190.6	2272.4
47.5°	1639.9	1650.0	1792.0	2088.6	2190.1
50°	1524.1	1537.2	1703.7	1997.9	2128.6
52.5°	1398.8	1423.8	1617.8	1912.0	2043.9
55°	1281.2	1302.1	1508.6	1838.6	1984.8
57.5°	1173.8	1186.3	1395.8	1746.1	1856.5
60°	1068.2	1071.2	1289.6	1643.4	1749.1
62.5°	947.0	952.4	1180.4	1522.3	1663.7
65°	811.0	836.6	1062.8	1406.5	1534.2
67.5°	683.9	728.6	942.9	1300.3	1367.1
70°	547.8	623.6	825.3	1175.6	1222.7
72.5°	423.1	512.0	704.8	1035.9	1102.2
75°	306.7	406.4	592.6	910.6	967.9
77.5°	206.5	307.9	487.5	772.2	848.0
80°	123.5	225.0	393.9	643.9	729.2
82.5°	63.3	151.0	305.5	540.1	616.4
85°	27.5	95.5	230.9	448.2	514.4
87.5°	7.8	54.3	170.1	362.2	418.3
90°	0.6	28.6	121.1	284.1	334.8
92.5°	0.6	13.7	85.3	214.8	253.6
95°	0.6	7.2	53.1	155.8	190.4
97.5°	0.6	4.2	32.2	110.4	139.6
100°	0.6	3.6	19.1	73.4	99.7
102.5°	0.6	4.2	13.1	46.5	65.0
105°	0.6	4.2	10.7	30.4	43.0
107.5°	1.2	4.2	9.5	22.7	29.8
110°	0.6	3.6	10.1	17.3	23.3

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	1.2	3.0	9.5	14.3	17.3
115°	0.6	2.4	8.4	13.7	14.3
117.5°	1.2	1.8	6.6	13.7	14.3
120°	1.2	1.2	5.4	13.1	14.9
122.5°	1.2	1.2	4.2	11.9	14.3
125°	0.6	1.2	3.6	9.0	12.5
127.5°	1.2	1.2	3.0	7.2	9.5
130°	1.2	1.2	2.4	5.4	7.2
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)