

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: P517579

Luminaire Tested: HVL12-8-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: P517579
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL12-8-LD4-1HI-30-UNV-C-EDD-90
Description: 8 FOOT, 12 INCH WIDE, HVL LED LUMINAIRE, WITH 3000K, 90 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9410.0 lumens
Efficiency: N/A
Efficacy: 106.6 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

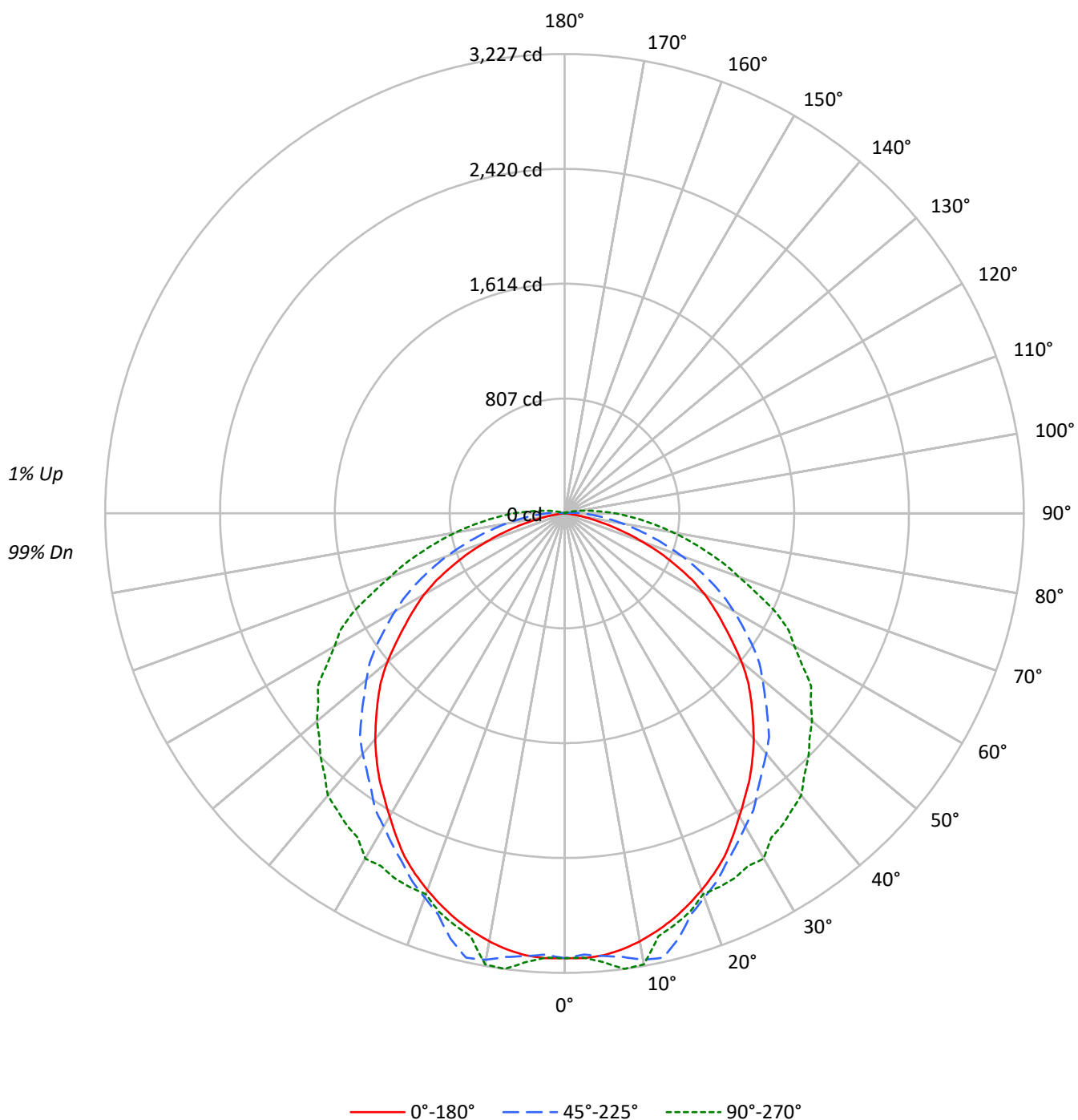
Input Watts (W): 88.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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
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°	4203	4203	4203
5°	4201	4166	4212
10°	4153	4249	4268
15°	4085	4160	3989
20°	4001	3922	3842
25°	3912	3776	3894
30°	3772	3664	3967
35°	3674	3559	3928
40°	3570	3487	3987
45°	3457	3388	3952
50°	3319	3284	3964
55°	3112	3173	4010
60°	2958	3009	3894
65°	2635	2809	3837
70°	2173	2537	3518
75°	1578	2197	3308
80°	913	1857	3097
85°	365	1511	2914

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 55°

Luminance: 4010 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	300.2	3.2
10°-20°	854.9	9.1
20°-30°	1272.1	13.5
30°-40°	1529.0	16.2
40°-50°	1609.4	17.1
50°-60°	1493.3	15.9
60°-70°	1180.7	12.5
70°-80°	721.2	7.7
80°-90°	314.2	3.3
90°-100°	97.8	1.0
100°-110°	22.0	0.2
110°-120°	8.8	0.1
120°-130°	5.0	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°	2427.2	25.8
0°-40°	3956.2	42.0
0°-60°	7058.9	75.0
0°-90°	9275.1	98.6
90°-120°	128.7	1.4
90°-150°	135.0	1.4
90°-180°	135.0	1.4
0°-180°	9410.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3124	3124	3124	3124	3124	
5°	3116	3110	3120	3155	3164	295
15°	2949	3062	3092	2990	2992	831
25°	2660	2830	2701	2782	2827	1221
35°	2270	2333	2368	2583	2671	1419
45°	1855	1863	2016	2336	2423	1430
55°	1366	1388	1609	1960	2116	1227
65°	865	892	1133	1500	1636	856
75°	327	433	632	971	1032	357
85°	29	102	246	478	548	45
90°	1	30	129	303	357	1
95°	1	8	57	166	203	0
105°	1	4	12	32	46	1
115°	1	2	9	15	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

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3123.6	3123.6	3123.6	3123.6	3123.6
2.5°	3127.4	3119.2	3102.0	3118.5	3123.0
5°	3116.0	3109.6	3120.4	3155.4	3164.3
7.5°	3089.9	3114.1	3142.7	3206.3	3226.7
10°	3051.1	3096.9	3182.8	3236.9	3215.9
12.5°	3004.0	3081.6	3196.8	3091.2	3042.2
15°	2949.3	3062.5	3092.4	2990.0	2991.9
17.5°	2885.0	3046.6	2954.4	2951.8	2933.4
20°	2815.6	2993.2	2871.0	2865.9	2846.2
22.5°	2741.2	2922.5	2797.2	2787.0	2840.5
25°	2660.4	2830.3	2701.1	2781.9	2827.1
27.5°	2559.2	2709.4	2620.9	2735.5	2792.1
30°	2456.8	2584.7	2538.8	2698.6	2799.1
32.5°	2360.7	2454.2	2471.4	2684.6	2701.1
35°	2269.7	2332.7	2367.7	2582.8	2670.6
37.5°	2169.8	2187.0	2279.9	2540.1	2624.7
40°	2068.0	2057.2	2206.1	2470.1	2587.2
42.5°	1958.5	1954.7	2127.8	2435.1	2493.7
45°	1854.8	1863.1	2016.4	2335.9	2423.0
47.5°	1748.6	1759.4	1910.8	2227.1	2335.2
50°	1625.1	1639.1	1816.6	2130.3	2269.7
52.5°	1491.5	1518.2	1725.0	2038.7	2179.3
55°	1366.1	1388.4	1608.6	1960.4	2116.3
57.5°	1251.6	1265.0	1488.3	1861.8	1979.5
60°	1139.0	1142.2	1375.0	1752.4	1865.0
62.5°	1009.8	1015.5	1258.6	1623.2	1774.0
65°	864.7	892.1	1133.3	1499.8	1635.9
67.5°	729.2	776.9	1005.4	1386.5	1457.8
70°	584.1	664.9	880.0	1253.5	1303.8
72.5°	451.1	545.9	751.5	1104.6	1175.3
75°	327.1	433.3	631.8	971.0	1032.1
77.5°	220.2	328.3	519.9	823.4	904.2
80°	131.7	239.9	420.0	686.6	777.6
82.5°	67.4	161.0	325.8	575.9	657.3
85°	29.3	101.8	246.2	477.9	548.5
87.5°	8.3	57.9	181.3	386.2	446.0
90°	0.6	30.5	129.2	302.9	357.0
92.5°	0.6	14.6	91.0	229.1	270.4
95°	0.6	7.6	56.6	166.1	203.0
97.5°	0.6	4.5	34.4	117.7	148.9
100°	0.6	3.8	20.4	78.3	106.3
102.5°	0.6	4.5	14.0	49.6	69.4
105°	0.6	4.5	11.5	32.5	45.8
107.5°	1.3	4.5	10.2	24.2	31.8
110°	0.6	3.8	10.8	18.5	24.8

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CATALOG NUMBER: HVL12-8-LD4-1HI-30-UNV-C-EDD-90

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	1.3	3.2	10.2	15.3	18.5
115°	0.6	2.5	8.9	14.6	15.3
117.5°	1.3	1.9	7.0	14.6	15.3
120°	1.3	1.3	5.7	14.0	15.9
122.5°	1.3	1.3	4.5	12.7	15.3
125°	0.6	1.3	3.8	9.5	13.4
127.5°	1.3	1.3	3.2	7.6	10.2
130°	1.3	1.3	2.5	5.7	7.6
132.5°	1.3	1.3	1.9	4.5	5.7
135°	1.3	1.3	1.3	3.2	4.5
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)