

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: P517584

Luminaire Tested: HVL12-8-LD4-1HI-35-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: P517584
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL12-8-LD4-1HI-35-UNV-C-EDD
Description: 8 FOOT, 12 INCH WIDE, HVL LED LUMINAIRE, WITH 3500K, 80 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8264.0 lumens
Efficiency: N/A
Efficacy: 93.6 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

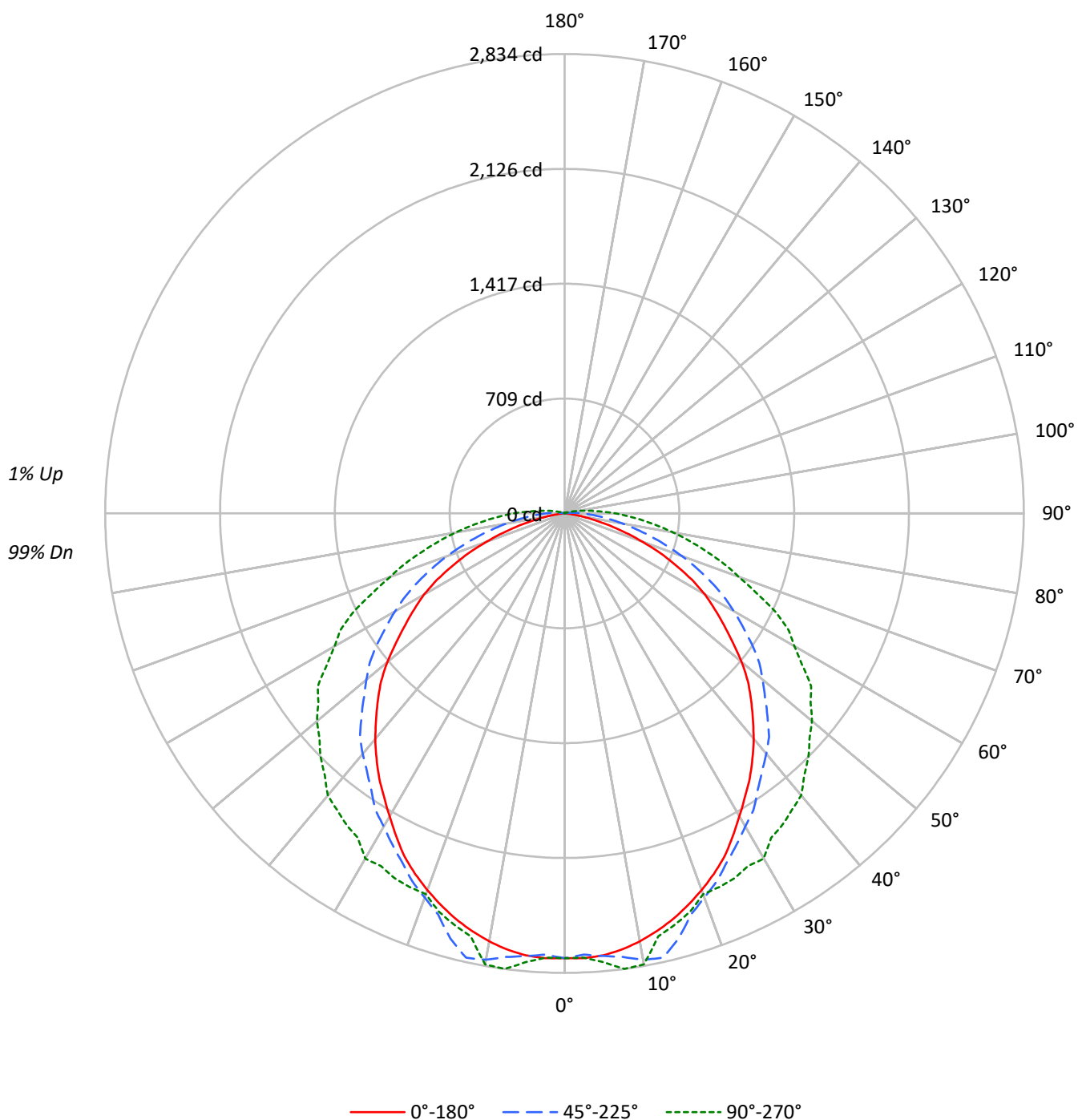
Input Watts (W): 88.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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	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°	3691	3691	3691
5°	3689	3659	3699
10°	3647	3732	3748
15°	3588	3653	3503
20°	3514	3444	3374
25°	3435	3316	3420
30°	3312	3218	3484
35°	3227	3125	3450
40°	3135	3062	3501
45°	3036	2975	3470
50°	2915	2884	3481
55°	2733	2786	3522
60°	2598	2643	3420
65°	2314	2467	3369
70°	1909	2228	3089
75°	1385	1930	2905
80°	802	1631	2720
85°	320	1327	2560

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 55°

Luminance: 3522 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	263.6	3.2
10°-20°	750.8	9.1
20°-30°	1117.1	13.5
30°-40°	1342.8	16.2
40°-50°	1413.4	17.1
50°-60°	1311.5	15.9
60°-70°	1036.9	12.5
70°-80°	633.4	7.7
80°-90°	276.0	3.3
90°-100°	85.9	1.0
100°-110°	19.3	0.2
110°-120°	7.8	0.1
120°-130°	4.4	0.1
130°-140°	1.2	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°	2131.6	25.8
0°-40°	3474.4	42.0
0°-60°	6199.2	75.0
0°-90°	8145.5	98.6
90°-120°	113.0	1.4
90°-150°	118.5	1.4
90°-180°	119.0	1.4
0°-180°	8264.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2743	2743	2743	2743	2743	
5°	2736	2731	2740	2771	2779	259
15°	2590	2690	2716	2626	2628	730
25°	2336	2486	2372	2443	2483	1073
35°	1993	2049	2079	2268	2345	1246
45°	1629	1636	1771	2051	2128	1256
55°	1200	1219	1413	1722	1859	1078
65°	759	784	995	1317	1437	752
75°	287	380	555	853	906	313
85°	26	89	216	420	482	40
90°	1	27	113	266	314	1
95°	1	7	50	146	178	0
105°	1	4	10	28	40	1
115°	1	2	8	13	13	1
125°	1	1	3	8	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

TEST NUMBER: P517584

CATALOG NUMBER: HVL12-8-LD4-1HI-35-UNV-C-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2743.2	2743.2	2743.2	2743.2	2743.2
2.5°	2746.6	2739.3	2724.2	2738.7	2742.6
5°	2736.5	2730.9	2740.4	2771.1	2779.0
7.5°	2713.6	2734.8	2760.0	2815.8	2833.7
10°	2679.5	2719.7	2795.2	2842.7	2824.2
12.5°	2638.1	2706.3	2807.5	2714.7	2671.7
15°	2590.1	2689.6	2715.8	2625.8	2627.5
17.5°	2533.6	2675.6	2594.6	2592.3	2576.1
20°	2472.7	2628.6	2521.4	2516.9	2499.6
22.5°	2407.4	2566.6	2456.5	2447.6	2494.5
25°	2336.4	2485.6	2372.1	2443.1	2482.8
27.5°	2247.5	2379.4	2301.7	2402.3	2452.1
30°	2157.6	2269.9	2229.7	2369.9	2458.2
32.5°	2073.2	2155.3	2170.4	2357.6	2372.1
35°	1993.3	2048.6	2079.3	2268.2	2345.3
37.5°	1905.5	1920.6	2002.2	2230.8	2305.1
40°	1816.1	1806.6	1937.4	2169.3	2272.1
42.5°	1720.0	1716.7	1868.7	2138.6	2190.0
45°	1628.9	1636.2	1770.9	2051.4	2127.9
47.5°	1535.6	1545.1	1678.1	1955.8	2050.8
50°	1427.2	1439.5	1595.4	1870.9	1993.3
52.5°	1309.9	1333.3	1514.9	1790.4	1913.9
55°	1199.8	1219.3	1412.7	1721.7	1858.6
57.5°	1099.2	1110.9	1307.1	1635.1	1738.5
60°	1000.3	1003.1	1207.6	1539.0	1637.9
62.5°	886.8	891.9	1105.3	1425.5	1558.0
65°	759.4	783.5	995.2	1317.1	1436.7
67.5°	640.4	682.3	882.9	1217.6	1280.2
70°	513.0	584.0	772.8	1100.9	1145.0
72.5°	396.2	479.5	660.0	970.1	1032.1
75°	287.2	380.5	554.9	852.7	906.4
77.5°	193.3	288.3	456.5	723.1	794.1
80°	115.7	210.7	368.8	603.0	682.9
82.5°	59.2	141.4	286.1	505.7	577.3
85°	25.7	89.4	216.3	419.7	481.7
87.5°	7.3	50.9	159.3	339.2	391.7
90°	0.6	26.8	113.4	266.0	313.5
92.5°	0.6	12.9	79.9	201.2	237.5
95°	0.6	6.7	49.7	145.8	178.3
97.5°	0.6	3.9	30.2	103.4	130.8
100°	0.6	3.4	17.9	68.7	93.3
102.5°	0.6	3.9	12.3	43.6	60.9
105°	0.6	3.9	10.1	28.5	40.2
107.5°	1.1	3.9	8.9	21.2	27.9
110°	0.6	3.4	9.5	16.2	21.8

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CATALOG NUMBER: HVL12-8-LD4-1HI-35-UNV-C-EDD

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	1.1	2.8	8.9	13.4	16.2
115°	0.6	2.2	7.8	12.9	13.4
117.5°	1.1	1.7	6.1	12.9	13.4
120°	1.1	1.1	5.0	12.3	14.0
122.5°	1.1	1.1	3.9	11.2	13.4
125°	0.6	1.1	3.4	8.4	11.7
127.5°	1.1	1.1	2.8	6.7	8.9
130°	1.1	1.1	2.2	5.0	6.7
132.5°	1.1	1.1	1.7	3.9	5.0
135°	1.1	1.1	1.1	2.8	3.9
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)