

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: P517580

Luminaire Tested: HVL12-8-LD4-1HI-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: P517580
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
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: 8155.0 lumens
Efficiency: N/A
Efficacy: 92.4 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

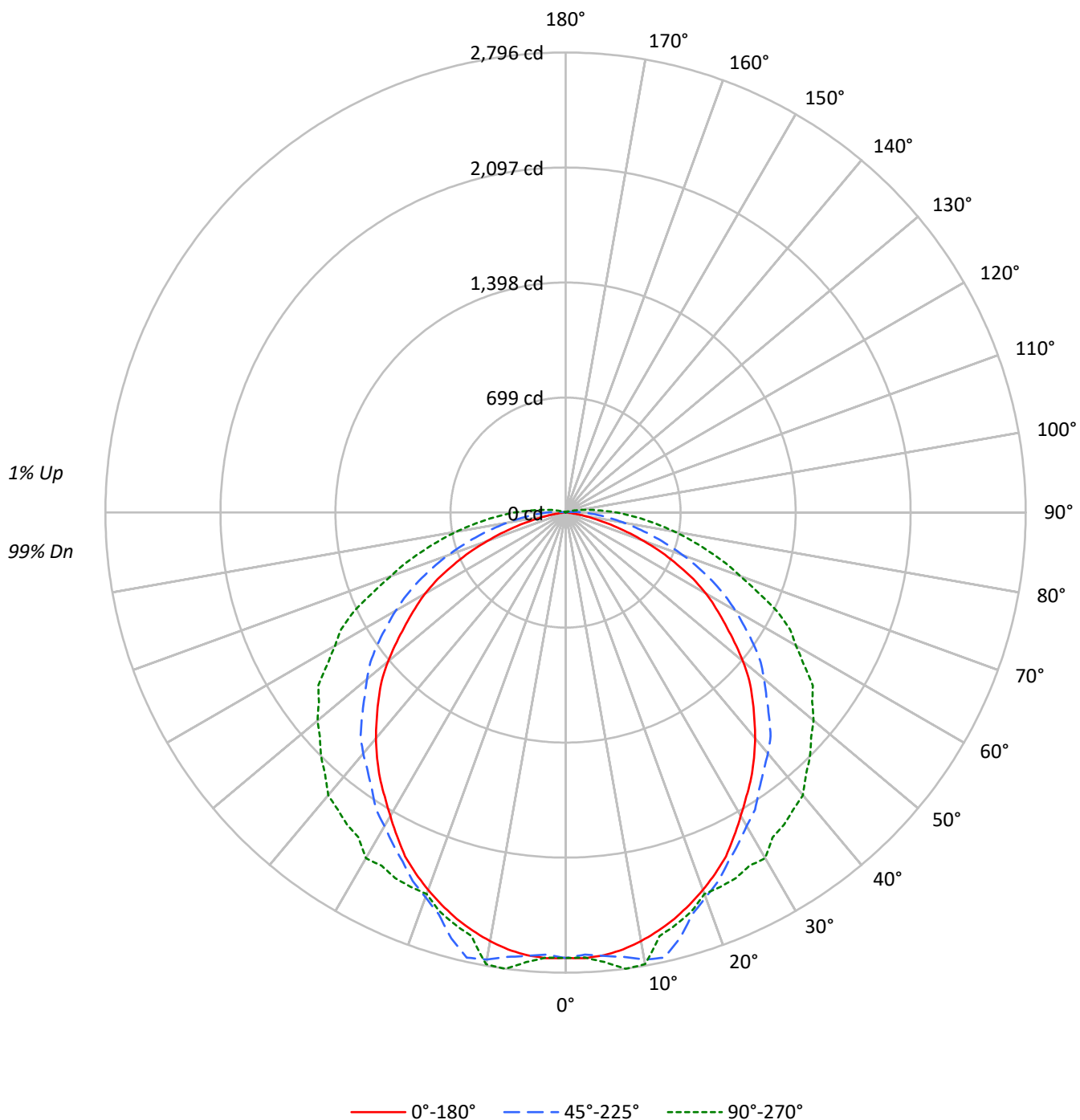
Input Watts (W): 88.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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

TEST NUMBER: P517580

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

Luminous Intensity Polar Plot



TEST NUMBER: P517580

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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°	3642	3642	3642
5°	3641	3611	3651
10°	3599	3682	3699
15°	3540	3605	3457
20°	3468	3399	3330
25°	3390	3273	3375
30°	3269	3175	3438
35°	3184	3084	3404
40°	3094	3022	3455
45°	2996	2936	3425
50°	2877	2846	3435
55°	2697	2749	3475
60°	2564	2608	3375
65°	2284	2434	3325
70°	1884	2199	3049
75°	1367	1904	2866
80°	791	1610	2684
85°	317	1310	2526

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 55°

Luminance: 3475 cd/sqm

TEST NUMBER: P517580

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

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	260.2	3.2
10°-20°	740.9	9.1
20°-30°	1102.4	13.5
30°-40°	1325.1	16.2
40°-50°	1394.7	17.1
50°-60°	1294.2	15.9
60°-70°	1023.2	12.5
70°-80°	625.0	7.7
80°-90°	272.3	3.3
90°-100°	84.8	1.0
100°-110°	19.1	0.2
110°-120°	7.7	0.1
120°-130°	4.3	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°	2103.5	25.8
0°-40°	3428.6	42.0
0°-60°	6117.4	75.0
0°-90°	8038.0	98.6
90°-120°	111.5	1.4
90°-150°	117.0	1.4
90°-180°	117.0	1.4
0°-180°	8155.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2707	2707	2707	2707	2707	
5°	2700	2695	2704	2735	2742	256
15°	2556	2654	2680	2591	2593	720
25°	2306	2453	2341	2411	2450	1058
35°	1967	2022	2052	2238	2314	1229
45°	1607	1615	1748	2024	2100	1239
55°	1184	1203	1394	1699	1834	1064
65°	749	773	982	1300	1418	742
75°	283	376	548	842	894	309
85°	25	88	213	414	475	39
90°	1	26	112	262	309	1
95°	1	7	49	144	176	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: P517580

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

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2707.0	2707.0	2707.0	2707.0	2707.0
2.5°	2710.3	2703.2	2688.3	2702.6	2706.5
5°	2700.4	2694.9	2704.3	2734.6	2742.3
7.5°	2677.8	2698.7	2723.6	2778.7	2796.3
10°	2644.2	2683.9	2758.3	2805.2	2787.0
12.5°	2603.3	2670.6	2770.4	2678.9	2636.4
15°	2555.9	2654.1	2680.0	2591.2	2592.9
17.5°	2500.2	2640.3	2560.3	2558.1	2542.1
20°	2440.1	2594.0	2488.1	2483.7	2466.6
22.5°	2375.6	2532.8	2424.1	2415.3	2461.6
25°	2305.6	2452.8	2340.9	2410.9	2450.0
27.5°	2217.9	2348.0	2271.4	2370.6	2419.7
30°	2129.1	2239.9	2200.2	2338.7	2425.8
32.5°	2045.8	2126.9	2141.8	2326.5	2340.9
35°	1967.0	2021.6	2051.9	2238.3	2314.4
37.5°	1880.4	1895.3	1975.8	2201.3	2274.7
40°	1792.2	1782.8	1911.8	2140.7	2242.2
42.5°	1697.3	1694.0	1844.0	2110.4	2161.1
45°	1607.4	1614.6	1747.5	2024.3	2099.9
47.5°	1515.4	1524.7	1656.0	1930.0	2023.8
50°	1408.4	1420.5	1574.4	1846.2	1967.0
52.5°	1292.6	1315.7	1495.0	1766.8	1888.7
55°	1183.9	1203.2	1394.0	1699.0	1834.1
57.5°	1084.7	1096.3	1289.8	1613.5	1715.5
60°	987.1	989.8	1191.7	1518.7	1616.3
62.5°	875.1	880.1	1090.7	1406.7	1537.4
65°	749.4	773.1	982.1	1299.7	1417.8
67.5°	631.9	673.3	871.3	1201.6	1263.3
70°	506.2	576.3	762.6	1086.3	1129.9
72.5°	391.0	473.1	651.3	957.3	1018.5
75°	283.4	375.5	547.6	841.5	894.4
77.5°	190.8	284.5	450.5	713.6	783.6
80°	114.1	207.9	364.0	595.0	673.9
82.5°	58.5	139.5	282.3	499.1	569.6
85°	25.4	88.2	213.4	414.1	475.3
87.5°	7.2	50.2	157.2	334.7	386.6
90°	0.6	26.5	111.9	262.5	309.4
92.5°	0.6	12.7	78.9	198.5	234.4
95°	0.6	6.6	49.1	143.9	175.9
97.5°	0.6	3.9	29.8	102.0	129.0
100°	0.6	3.3	17.6	67.8	92.1
102.5°	0.6	3.9	12.1	43.0	60.1
105°	0.6	3.9	9.9	28.1	39.7
107.5°	1.1	3.9	8.8	21.0	27.6
110°	0.6	3.3	9.4	16.0	21.5

TEST NUMBER: P517580

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

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	1.1	2.8	8.8	13.2	16.0
115°	0.6	2.2	7.7	12.7	13.2
117.5°	1.1	1.7	6.1	12.7	13.2
120°	1.1	1.1	5.0	12.1	13.8
122.5°	1.1	1.1	3.9	11.0	13.2
125°	0.6	1.1	3.3	8.3	11.6
127.5°	1.1	1.1	2.8	6.6	8.8
130°	1.1	1.1	2.2	5.0	6.6
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)