

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: P517704

Luminaire Tested: HVL12-8-LD4-3LO-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: P517704
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL12-8-LD4-3LO-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: 15944.0 lumens
Efficiency: N/A
Efficacy: 115.2 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

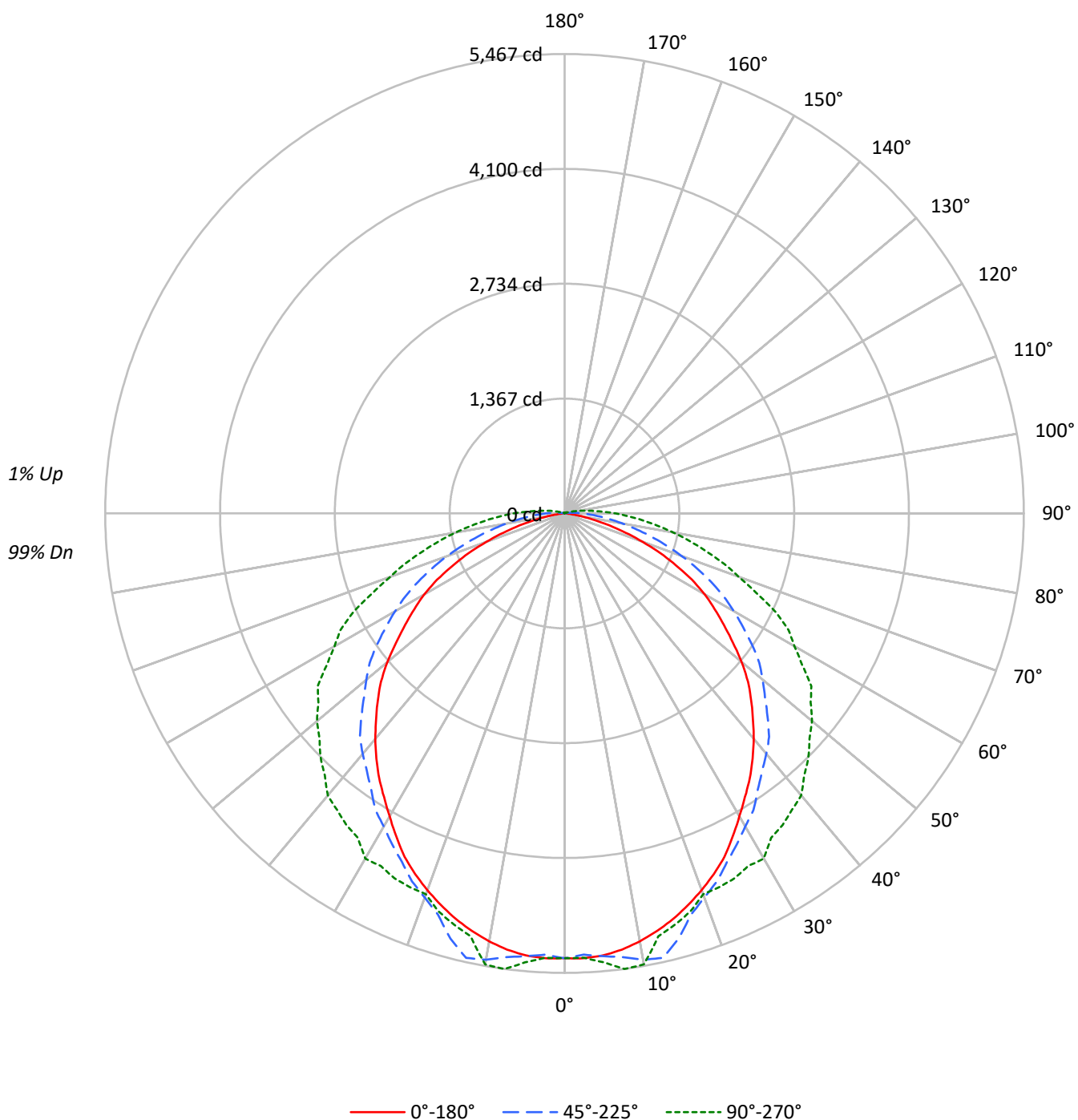
Input Watts (W): 138.4
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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: P517704

CATALOG NUMBER: HVL12-8-LD4-3LO-50-UNV-C-EDD

Luminous Intensity Polar Plot



TEST NUMBER: P517704

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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°	7121	7121	7121
5°	7118	7059	7137
10°	7037	7200	7232
15°	6922	7048	6760
20°	6779	6644	6510
25°	6628	6399	6598
30°	6390	6208	6722
35°	6226	6030	6655
40°	6049	5908	6755
45°	5858	5740	6696
50°	5624	5564	6716
55°	5273	5375	6794
60°	5012	5098	6598
65°	4465	4760	6501
70°	3683	4299	5961
75°	2673	3723	5604
80°	1547	3147	5247
85°	618	2560	4938

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 55°

Luminance: 6794 cd/sqm

TEST NUMBER: P517704

CATALOG NUMBER: HVL12-8-LD4-3LO-50-UNV-C-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	508.7	3.2
10°-20°	1448.6	9.1
20°-30°	2155.3	13.5
30°-40°	2590.7	16.2
40°-50°	2726.9	17.1
50°-60°	2530.2	15.9
60°-70°	2000.6	12.5
70°-80°	1222.0	7.7
80°-90°	532.4	3.3
90°-100°	165.8	1.0
100°-110°	37.2	0.2
110°-120°	15.0	0.1
120°-130°	8.4	0.1
130°-140°	2.3	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°	4112.6	25.8
0°-40°	6703.3	42.0
0°-60°	11960.3	75.0
0°-90°	15715.3	98.6
90°-120°	218.0	1.4
90°-150°	228.7	1.4
90°-180°	229.0	1.4
0°-180°	15944.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5292	5292	5292	5292	5292	
5°	5280	5269	5287	5346	5362	500
15°	4997	5189	5240	5066	5069	1408
25°	4508	4796	4577	4714	4790	2069
35°	3846	3952	4012	4376	4525	2404
45°	3143	3157	3417	3958	4106	2423
55°	2315	2352	2726	3322	3586	2080
65°	1465	1512	1920	2541	2772	1451
75°	554	734	1071	1645	1749	605
85°	50	172	417	810	929	77
90°	1	52	219	513	605	2
95°	1	13	96	281	344	1
105°	1	8	19	55	78	1
115°	1	4	15	25	26	2
125°	1	2	6	16	23	2
135°	2	2	2	5	8	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: P517704

CATALOG NUMBER: HVL12-8-LD4-3LO-50-UNV-C-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	5292.5	5292.5	5292.5	5292.5	5292.5
2.5°	5299.0	5285.0	5255.9	5283.9	5291.5
5°	5279.6	5268.8	5287.2	5346.4	5361.5
7.5°	5235.4	5276.4	5324.9	5432.7	5467.2
10°	5169.6	5247.3	5392.8	5484.4	5448.9
12.5°	5089.9	5221.4	5416.5	5237.6	5154.5
15°	4997.1	5189.0	5239.7	5066.1	5069.4
17.5°	4888.2	5162.1	5005.8	5001.4	4970.2
20°	4770.7	5071.5	4864.5	4855.9	4822.5
22.5°	4644.6	4951.9	4739.5	4722.2	4812.8
25°	4507.7	4795.5	4576.7	4713.6	4790.1
27.5°	4336.2	4590.7	4440.8	4634.9	4730.8
30°	4162.7	4379.4	4301.7	4572.3	4742.7
32.5°	3999.9	4158.3	4187.5	4548.6	4576.7
35°	3845.7	3952.4	4011.7	4376.1	4524.9
37.5°	3676.4	3705.5	3862.9	4303.9	4447.3
40°	3503.9	3485.6	3737.9	4185.3	4383.7
42.5°	3318.5	3312.0	3605.3	4126.0	4225.2
45°	3142.7	3156.8	3416.6	3957.8	4105.5
47.5°	2962.7	2981.0	3237.6	3773.5	3956.7
50°	2753.5	2777.3	3078.1	3609.6	3845.7
52.5°	2527.1	2572.4	2922.8	3454.3	3692.6
55°	2314.7	2352.5	2725.5	3321.7	3585.9
57.5°	2120.7	2143.3	2521.7	3154.6	3354.1
60°	1929.9	1935.2	2329.8	2969.2	3160.0
62.5°	1711.0	1720.7	2132.5	2750.3	3005.8
65°	1465.2	1511.5	1920.1	2541.2	2771.9
67.5°	1235.5	1316.4	1703.4	2349.2	2470.0
70°	989.7	1126.6	1491.1	2123.9	2209.1
72.5°	764.4	925.0	1273.3	1871.6	1991.3
75°	554.2	734.2	1070.6	1645.2	1748.7
77.5°	373.0	556.3	880.8	1395.1	1532.0
80°	223.2	406.5	711.6	1163.3	1317.5
82.5°	114.3	272.8	552.0	975.7	1113.7
85°	49.6	172.5	417.2	809.7	929.3
87.5°	14.0	98.1	307.3	654.4	755.8
90°	1.1	51.8	218.9	513.2	604.8
92.5°	1.1	24.8	154.2	388.1	458.2
95°	1.1	12.9	96.0	281.4	343.9
97.5°	1.1	7.5	58.2	199.5	252.3
100°	1.1	6.5	34.5	132.6	180.0
102.5°	1.1	7.5	23.7	84.1	117.5
105°	1.1	7.5	19.4	55.0	77.6
107.5°	2.2	7.5	17.3	41.0	53.9
110°	1.1	6.5	18.3	31.3	42.0

TEST NUMBER: P517704

CATALOG NUMBER: HVL12-8-LD4-3LO-50-UNV-C-EDD

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	2.2	5.4	17.3	25.9	31.3
115°	1.1	4.3	15.1	24.8	25.9
117.5°	2.2	3.2	11.9	24.8	25.9
120°	2.2	2.2	9.7	23.7	27.0
122.5°	2.2	2.2	7.5	21.6	25.9
125°	1.1	2.2	6.5	16.2	22.6
127.5°	2.2	2.2	5.4	12.9	17.3
130°	2.2	2.2	4.3	9.7	12.9
132.5°	2.2	2.2	3.2	7.5	9.7
135°	2.2	2.2	2.2	5.4	7.5
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)