

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: P517368

Luminaire Tested: HVL12-2-LD4-2LO-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: P517368
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL12-2-LD4-2LO-50-UNV-C-EDD
Description: 2 FOOT, 12 INCH WIDE, HVL LED LUMINAIRE, WITH 5000K, 80 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2905.0 lumens
Efficiency: N/A
Efficacy: 122.6 lumens/watt
Spacing Criteria (0/90/45): 1.18 / 1.32 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 1' x L: 2' x H: 0.17')
CIE Type: Direct

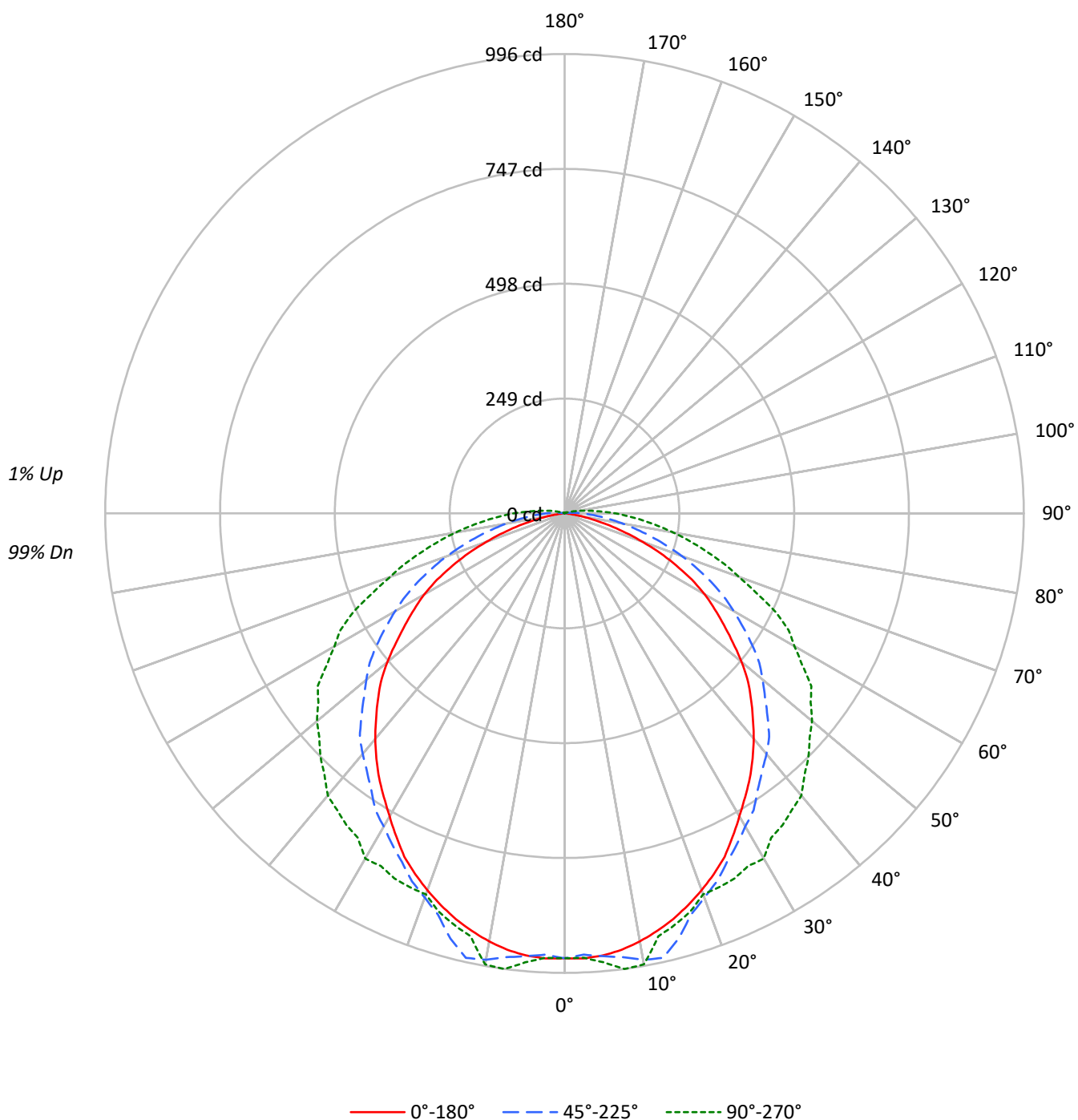
Input Watts (W): 23.7
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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°	5190	5190	5190
5°	5159	5125	5202
10°	5073	5208	5271
15°	4962	5079	4926
20°	4832	4769	4745
25°	4695	4575	4809
30°	4497	4420	4899
35°	4350	4273	4850
40°	4192	4166	4923
45°	4023	4026	4880
50°	3821	3878	4894
55°	3536	3720	4951
60°	3307	3498	4809
65°	2885	3231	4737
70°	2309	2878	4344
75°	1602	2444	4084
80°	857	2006	3824
85°	285	1554	3598

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 55°

Luminance: 4951 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	92.7	3.2
10°-20°	263.9	9.1
20°-30°	392.7	13.5
30°-40°	472.0	16.2
40°-50°	496.8	17.1
50°-60°	461.0	15.9
60°-70°	364.5	12.5
70°-80°	222.7	7.7
80°-90°	97.0	3.3
90°-100°	30.2	1.0
100°-110°	6.8	0.2
110°-120°	2.7	0.1
120°-130°	1.5	0.1
130°-140°	0.4	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°	749.3	25.8
0°-40°	1221.3	42.0
0°-60°	2179.2	75.0
0°-90°	2863.3	98.6
90°-120°	39.7	1.4
90°-150°	41.7	1.4
90°-180°	42.0	1.4
0°-180°	2905.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	964	964	964	964	964	
5°	962	960	963	974	977	91
15°	910	945	955	923	924	256
25°	821	874	834	859	873	377
35°	701	720	731	797	824	438
45°	573	575	622	721	748	441
55°	422	429	497	605	653	379
65°	267	275	350	463	505	264
75°	101	134	195	300	319	110
85°	9	31	76	148	169	14
90°	0	9	40	94	110	0
95°	0	2	18	51	63	0
105°	0	1	4	10	14	0
115°	0	1	3	4	5	0
125°	0	0	1	3	4	0
135°	0	0	0	1	1	0
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: HVL12-2-LD4-2LO-50-UNV-C-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	964.3	964.3	964.3	964.3	964.3
2.5°	965.5	962.9	957.6	962.7	964.1
5°	961.9	960.0	963.3	974.1	976.9
7.5°	953.9	961.4	970.2	989.8	996.1
10°	941.9	956.1	982.6	999.3	992.8
12.5°	927.4	951.3	986.9	954.3	939.2
15°	910.5	945.4	954.7	923.1	923.6
17.5°	890.6	940.5	912.1	911.3	905.6
20°	869.2	924.0	886.3	884.7	878.7
22.5°	846.2	902.2	863.5	860.4	876.9
25°	821.3	873.7	833.9	858.8	872.8
27.5°	790.1	836.4	809.1	844.5	862.0
30°	758.4	797.9	783.8	833.1	864.1
32.5°	728.8	757.7	763.0	828.8	833.9
35°	700.7	720.1	730.9	797.3	824.4
37.5°	669.8	675.1	703.8	784.2	810.3
40°	638.4	635.1	681.0	762.6	798.7
42.5°	604.6	603.4	656.9	751.8	769.8
45°	572.6	575.2	622.5	721.1	748.0
47.5°	539.8	543.1	589.9	687.5	720.9
50°	501.7	506.0	560.8	657.7	700.7
52.5°	460.4	468.7	532.5	629.4	672.8
55°	421.7	428.6	496.6	605.2	653.3
57.5°	386.4	390.5	459.5	574.8	611.1
60°	351.6	352.6	424.5	541.0	575.8
62.5°	311.7	313.5	388.5	501.1	547.7
65°	267.0	275.4	349.9	463.0	505.0
67.5°	225.1	239.8	310.4	428.0	450.0
70°	180.3	205.3	271.7	387.0	402.5
72.5°	139.3	168.5	232.0	341.0	362.8
75°	101.0	133.8	195.1	299.8	318.6
77.5°	68.0	101.4	160.5	254.2	279.1
80°	40.7	74.1	129.6	212.0	240.0
82.5°	20.8	49.7	100.6	177.8	202.9
85°	9.0	31.4	76.0	147.5	169.3
87.5°	2.6	17.9	56.0	119.2	137.7
90°	0.2	9.4	39.9	93.5	110.2
92.5°	0.2	4.5	28.1	70.7	83.5
95°	0.2	2.4	17.5	51.3	62.7
97.5°	0.2	1.4	10.6	36.3	46.0
100°	0.2	1.2	6.3	24.2	32.8
102.5°	0.2	1.4	4.3	15.3	21.4
105°	0.2	1.4	3.5	10.0	14.1
107.5°	0.4	1.4	3.1	7.5	9.8
110°	0.2	1.2	3.3	5.7	7.7

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.4	1.0	3.1	4.7	5.7
115°	0.2	0.8	2.8	4.5	4.7
117.5°	0.4	0.6	2.2	4.5	4.7
120°	0.4	0.4	1.8	4.3	4.9
122.5°	0.4	0.4	1.4	3.9	4.7
125°	0.2	0.4	1.2	2.9	4.1
127.5°	0.4	0.4	1.0	2.4	3.1
130°	0.4	0.4	0.8	1.8	2.4
132.5°	0.4	0.4	0.6	1.4	1.8
135°	0.4	0.4	0.4	1.0	1.4
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)