

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: P517693

Luminaire Tested: HVL12-8-LD4-3LO-30-UNV-O-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: P517693
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL12-8-LD4-3LO-30-UNV-O-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: 13340.0 lumens
Efficiency: N/A
Efficacy: 96.4 lumens/watt
Spacing Criteria (0/90/45): 1.25 / 1.27 / 1.38
Luminous Opening: Rectangular w/ Sides (W: 1' x L: 8' x H: 0.17')
CIE Type: Direct

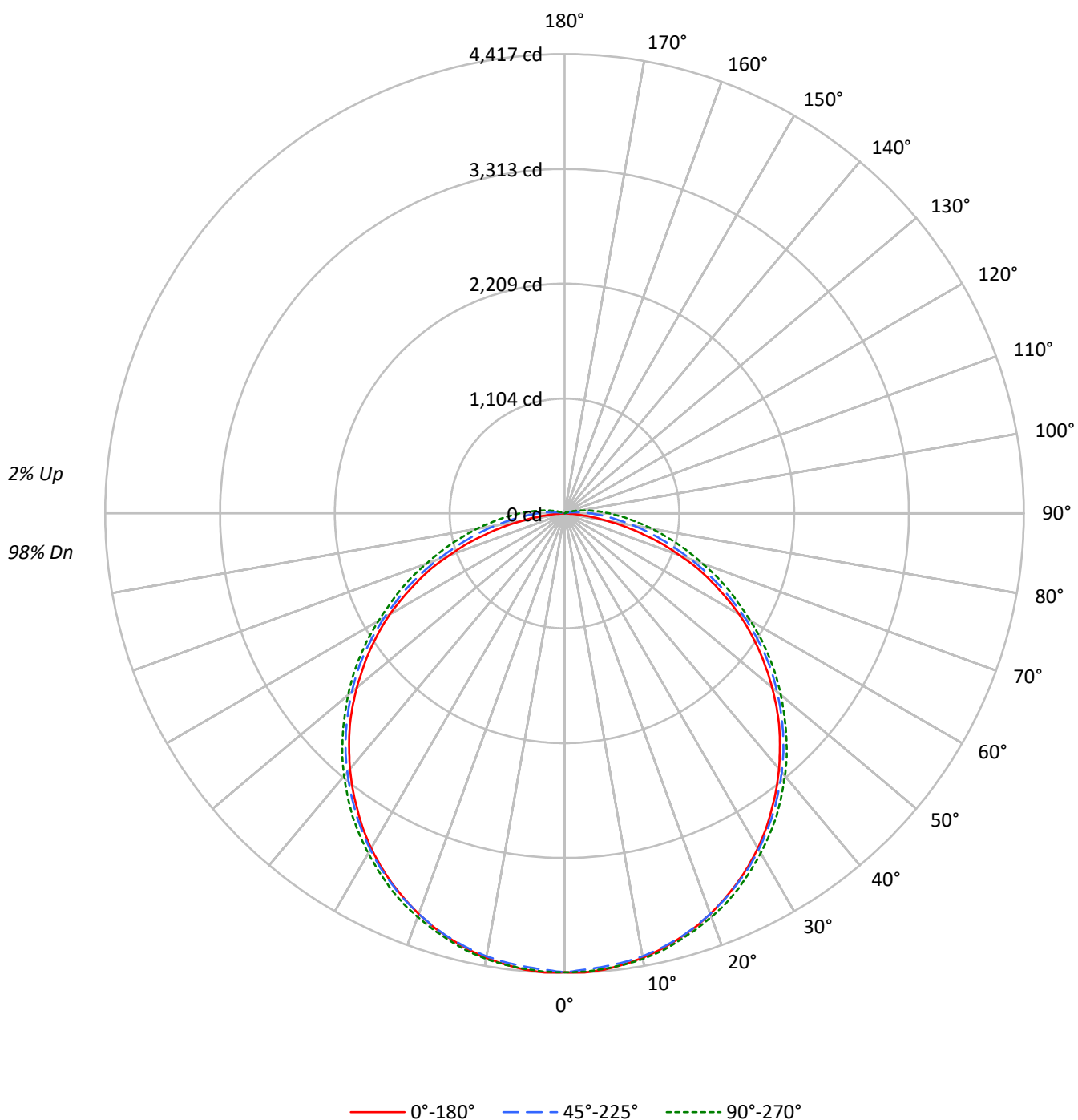
Input Watts (W): 138.4
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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

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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				0
RW	70	50	30	10	70	50	30	10	50	30	10		50	30	10		0
RCR																	
0	119	119	119	119	116	116	116	116	110	110	110		105	105	105		98
1	108	102	98	94	105	100	96	92	95	92	89		91	88	86		81
2	98	89	82	76	95	87	80	75	83	77	73		79	75	71		67
3	89	78	69	63	86	76	68	62	73	66	61		70	64	59		56
4	81	69	60	53	79	67	59	52	65	57	52		62	56	51		47
5	75	61	52	45	72	60	52	45	58	50	44		56	49	44		41
6	69	55	46	40	67	54	46	39	52	45	39		50	44	38		36
7	64	50	41	35	62	49	41	35	47	40	34		46	39	34		32
8	59	46	37	31	58	45	37	31	43	36	31		42	35	30		28
9	55	42	34	28	54	41	33	28	40	33	28		39	32	27		25
10	52	39	31	25	51	38	30	25	37	30	25		36	29	25		23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5936	5936	5936
5°	5936	5841	5851
10°	5907	5772	5774
15°	5867	5691	5672
20°	5824	5596	5573
25°	5770	5497	5470
30°	5707	5389	5348
35°	5624	5267	5227
40°	5539	5137	5080
45°	5448	4994	4919
50°	5326	4824	4744
55°	5196	4636	4548
60°	5041	4379	4313
65°	4777	4089	4086
70°	4389	3740	3817
75°	3828	3357	3593
80°	2969	2999	3426
85°	1712	2674	3333

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 5448 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	417.5	3.1
10°-20°	1197.6	9.0
20°-30°	1817.2	13.6
30°-40°	2197.3	16.5
40°-50°	2292.7	17.2
50°-60°	2096.2	15.7
60°-70°	1634.1	12.2
70°-80°	1022.2	7.7
80°-90°	464.3	3.5
90°-100°	155.6	1.2
100°-110°	39.1	0.3
110°-120°	6.2	0.0
120°-130°	0.0	0.0
130°-140°	0.0	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°	3432.3	25.7
0°-40°	5629.6	42.2
0°-60°	10018.6	75.1
0°-90°	13139.2	98.5
90°-120°	200.8	1.5
90°-150°	200.8	1.5
90°-180°	201.0	1.5
0°-180°	13340.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4412	4412	4412	4412	4412	
5°	4403	4394	4375	4395	4395	418
15°	4235	4242	4231	4255	4254	1196
25°	3924	3927	3932	3965	3971	1808
35°	3474	3490	3504	3539	3554	2174
45°	2923	2949	2973	3002	3016	2252
55°	2281	2308	2351	2385	2400	2038
65°	1567	1594	1650	1715	1742	1551
75°	794	842	965	1081	1121	846
85°	137	254	436	576	627	174
90°	1	95	257	386	433	5
95°	1	25	133	241	279	1
105°	2	3	22	64	86	2
115°	3	3	4	11	17	2
125°	0	0	0	0	0	0
135°	0	0	0	0	0	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: HVL12-8-LD4-3LO-30-UNV-O-EDD-90

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4412.1	4412.1	4412.1	4412.1	4412.1
2.5°	4417.3	4411.0	4391.3	4411.0	4410.0
5°	4402.7	4394.4	4374.6	4395.4	4395.4
7.5°	4373.6	4370.5	4352.8	4376.7	4376.7
10°	4339.3	4338.2	4323.7	4349.7	4350.7
12.5°	4291.4	4295.6	4282.1	4307.0	4310.1
15°	4235.3	4242.5	4231.1	4255.0	4254.0
17.5°	4173.9	4178.0	4169.7	4196.8	4195.7
20°	4098.0	4103.2	4096.9	4125.0	4128.1
22.5°	4013.7	4021.0	4020.0	4049.1	4057.4
25°	3924.3	3927.4	3931.5	3964.8	3971.1
27.5°	3825.5	3830.7	3837.9	3868.1	3874.3
30°	3717.3	3725.6	3733.9	3765.1	3773.5
32.5°	3602.9	3611.2	3621.6	3662.2	3666.3
35°	3473.9	3489.5	3504.1	3539.4	3554.0
37.5°	3344.9	3364.7	3378.2	3415.7	3427.1
40°	3208.7	3228.4	3250.3	3289.8	3297.1
42.5°	3066.2	3089.1	3115.1	3150.4	3162.9
45°	2922.7	2948.7	2972.6	3001.7	3016.3
47.5°	2767.7	2793.7	2822.8	2856.1	2865.5
50°	2607.5	2637.7	2668.9	2700.1	2716.7
52.5°	2443.2	2479.6	2514.9	2548.2	2563.8
55°	2280.9	2308.0	2350.6	2384.9	2400.5
57.5°	2112.4	2135.3	2173.8	2230.0	2238.3
60°	1940.8	1961.6	2001.1	2046.9	2065.6
62.5°	1751.5	1779.6	1821.2	1879.4	1896.1
65°	1567.4	1594.5	1649.6	1715.1	1742.2
67.5°	1389.6	1398.9	1469.6	1538.3	1582.0
70°	1179.5	1214.8	1297.0	1381.2	1414.5
72.5°	998.5	1033.9	1124.3	1223.1	1264.8
75°	793.6	842.5	965.2	1080.7	1121.2
77.5°	613.7	667.7	819.6	936.1	982.9
80°	428.5	512.8	678.1	809.2	860.2
82.5°	269.4	373.4	550.2	687.5	732.2
85°	137.3	253.8	435.8	576.2	627.2
87.5°	36.4	164.3	339.1	473.2	525.2
90°	1.0	94.6	256.9	385.9	432.7
92.5°	1.0	53.0	191.4	306.8	354.7
95°	1.0	25.0	133.1	241.3	278.7
97.5°	1.0	10.4	91.5	182.0	219.5
100°	1.0	5.2	58.2	132.1	164.3
102.5°	2.1	3.1	36.4	94.6	120.7
105°	2.1	3.1	21.8	64.5	86.3
107.5°	2.1	3.1	12.5	43.7	59.3
110°	3.1	3.1	7.3	27.0	39.5

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	3.1	3.1	4.2	17.7	26.0
115°	3.1	3.1	4.2	11.4	16.6
117.5°	0.0	0.0	0.0	0.0	0.0
120°	0.0	0.0	0.0	0.0	0.0
122.5°	0.0	0.0	0.0	0.0	0.0
125°	0.0	0.0	0.0	0.0	0.0
127.5°	0.0	0.0	0.0	0.0	0.0
130°	0.0	0.0	0.0	0.0	0.0
132.5°	0.0	0.0	0.0	0.0	0.0
135°	0.0	0.0	0.0	0.0	0.0
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)