

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: P517627

Luminaire Tested: HVL12-8-LD4-2HI-30-UNV-C-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: P517627
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL12-8-LD4-2HI-30-UNV-C-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: 17870.0 lumens
Efficiency: N/A
Efficacy: 101.0 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

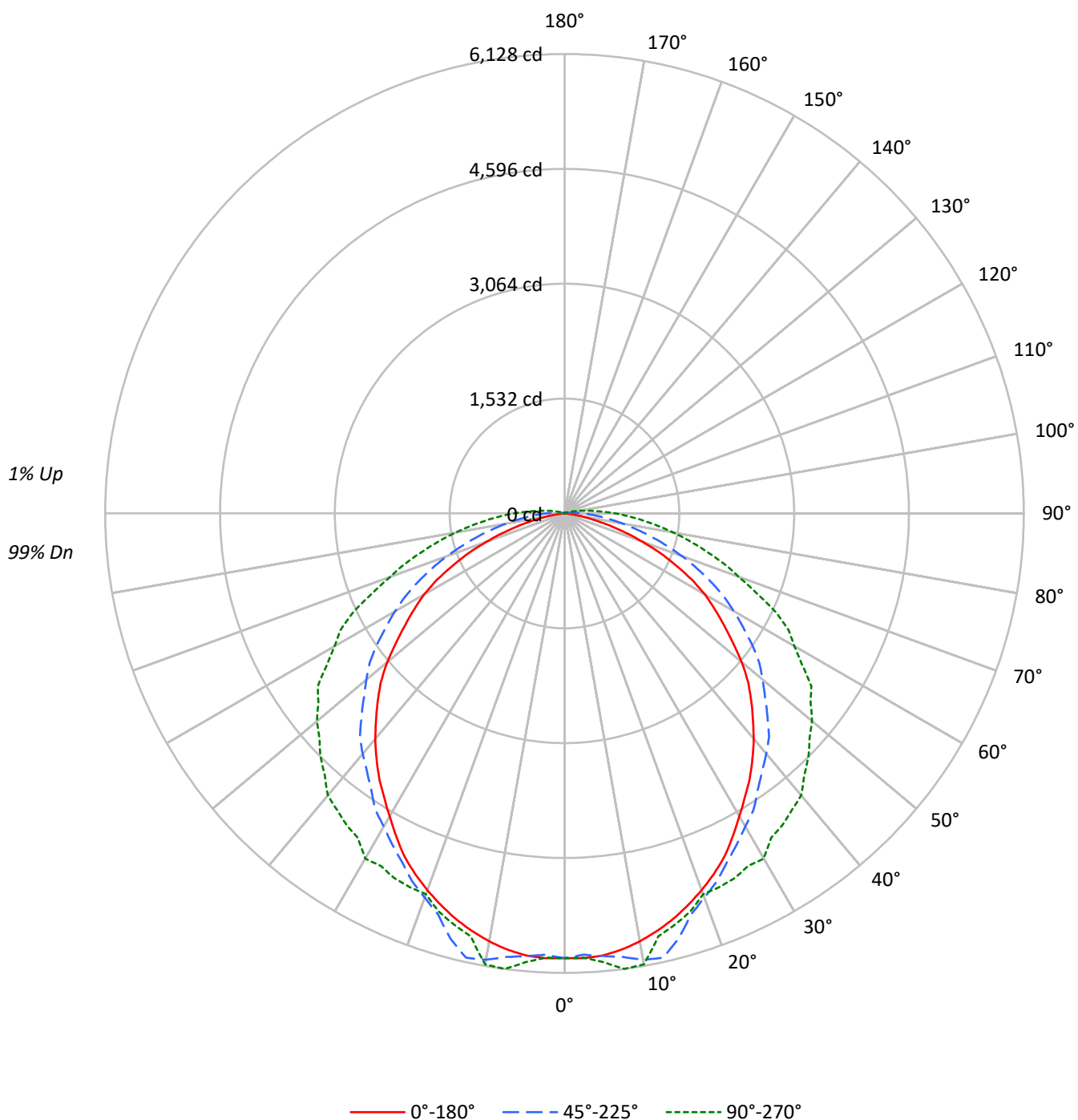
Input Watts (W): 176.9
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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
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°	7981	7981	7981
5°	7978	7912	8000
10°	7887	8069	8106
15°	7758	7900	7576
20°	7598	7447	7296
25°	7428	7172	7396
30°	7162	6958	7533
35°	6978	6758	7459
40°	6779	6622	7571
45°	6566	6433	7505
50°	6304	6236	7527
55°	5910	6025	7615
60°	5618	5714	7395
65°	5005	5335	7286
70°	4128	4819	6680
75°	2996	4173	6281
80°	1733	3527	5881
85°	693	2869	5535

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 55°

Luminance: 7615 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	570.1	3.2
10°-20°	1623.6	9.1
20°-30°	2415.7	13.5
30°-40°	2903.6	16.2
40°-50°	3056.3	17.1
50°-60°	2835.9	15.9
60°-70°	2242.2	12.5
70°-80°	1369.6	7.7
80°-90°	596.7	3.3
90°-100°	185.8	1.0
100°-110°	41.7	0.2
110°-120°	16.8	0.1
120°-130°	9.4	0.1
130°-140°	2.5	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°	4609.4	25.8
0°-40°	7513.0	42.0
0°-60°	13405.1	75.0
0°-90°	17613.7	98.6
90°-120°	244.3	1.4
90°-150°	256.3	1.4
90°-180°	256.0	1.4
0°-180°	17870.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5932	5932	5932	5932	5932	
5°	5917	5905	5926	5992	6009	561
15°	5601	5816	5873	5678	5682	1578
25°	5052	5375	5130	5283	5369	2319
35°	4310	4430	4496	4905	5072	2694
45°	3522	3538	3829	4436	4602	2715
55°	2594	2637	3055	3723	4019	2331
65°	1642	1694	2152	2848	3107	1626
75°	621	823	1200	1844	1960	678
85°	56	193	468	908	1042	86
90°	1	58	245	575	678	3
95°	1	14	108	315	386	1
105°	1	8	22	62	87	2
115°	1	5	17	28	29	2
125°	1	2	7	18	25	2
135°	2	2	2	6	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

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	5931.9	5931.9	5931.9	5931.9	5931.9
2.5°	5939.1	5923.4	5890.8	5922.2	5930.7
5°	5917.4	5905.3	5925.8	5992.3	6009.2
7.5°	5867.8	5913.7	5968.1	6089.0	6127.6
10°	5794.1	5881.1	6044.2	6147.0	6107.1
12.5°	5704.7	5852.1	6070.8	5870.2	5777.2
15°	5600.8	5815.9	5872.7	5678.1	5681.7
17.5°	5478.7	5785.7	5610.4	5605.6	5570.6
20°	5347.0	5684.2	5452.1	5442.5	5405.0
22.5°	5205.6	5550.0	5312.0	5292.6	5394.1
25°	5052.2	5374.8	5129.5	5283.0	5368.8
27.5°	4860.0	5145.2	4977.3	5194.8	5302.3
30°	4665.5	4908.4	4821.4	5124.7	5315.6
32.5°	4483.0	4660.7	4693.3	5098.1	5129.5
35°	4310.2	4429.9	4496.3	4904.8	5071.5
37.5°	4120.5	4153.2	4329.6	4823.8	4984.5
40°	3927.2	3906.6	4189.4	4690.9	4913.2
42.5°	3719.4	3712.1	4040.8	4624.4	4735.6
45°	3522.4	3538.1	3829.3	4435.9	4601.5
47.5°	3320.6	3341.1	3628.7	4229.3	4434.7
50°	3086.2	3112.8	3449.9	4045.6	4310.2
52.5°	2832.4	2883.2	3275.9	3871.6	4138.7
55°	2594.4	2636.7	3054.7	3723.0	4019.0
57.5°	2376.9	2402.2	2826.4	3535.7	3759.2
60°	2163.0	2169.0	2611.3	3327.8	3541.7
62.5°	1917.7	1928.6	2390.1	3082.5	3368.9
65°	1642.2	1694.1	2152.1	2848.1	3106.7
67.5°	1384.8	1475.4	1909.2	2633.0	2768.4
70°	1109.3	1262.7	1671.2	2380.5	2475.9
72.5°	856.7	1036.8	1427.1	2097.7	2231.9
75°	621.1	822.9	1199.9	1844.0	1960.0
77.5°	418.1	623.5	987.2	1563.6	1717.1
80°	250.1	455.6	797.5	1303.8	1476.6
82.5°	128.1	305.7	618.7	1093.6	1248.2
85°	55.6	193.3	467.6	907.5	1041.6
87.5°	15.7	110.0	344.4	733.5	847.1
90°	1.2	58.0	245.3	575.2	677.9
92.5°	1.2	27.8	172.8	435.0	513.6
95°	1.2	14.5	107.5	315.4	385.5
97.5°	1.2	8.5	65.3	223.5	282.8
100°	1.2	7.3	38.7	148.6	201.8
102.5°	1.2	8.5	26.6	94.3	131.7
105°	1.2	8.5	21.8	61.6	87.0
107.5°	2.4	8.5	19.3	45.9	60.4
110°	1.2	7.3	20.5	35.0	47.1

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	2.4	6.0	19.3	29.0	35.0
115°	1.2	4.8	16.9	27.8	29.0
117.5°	2.4	3.6	13.3	27.8	29.0
120°	2.4	2.4	10.9	26.6	30.2
122.5°	2.4	2.4	8.5	24.2	29.0
125°	1.2	2.4	7.3	18.1	25.4
127.5°	2.4	2.4	6.0	14.5	19.3
130°	2.4	2.4	4.8	10.9	14.5
132.5°	2.4	2.4	3.6	8.5	10.9
135°	2.4	2.4	2.4	6.0	8.5
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)