

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: P517648

Luminaire Tested: HVL12-8-LD4-2LO-35-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: P517648
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL12-8-LD4-2LO-35-UNV-C-EDD
Description: 8 FOOT, 12 INCH WIDE, HVL LED LUMINAIRE, WITH 3500K, 80 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9467.0 lumens
Efficiency: N/A
Efficacy: 100.0 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

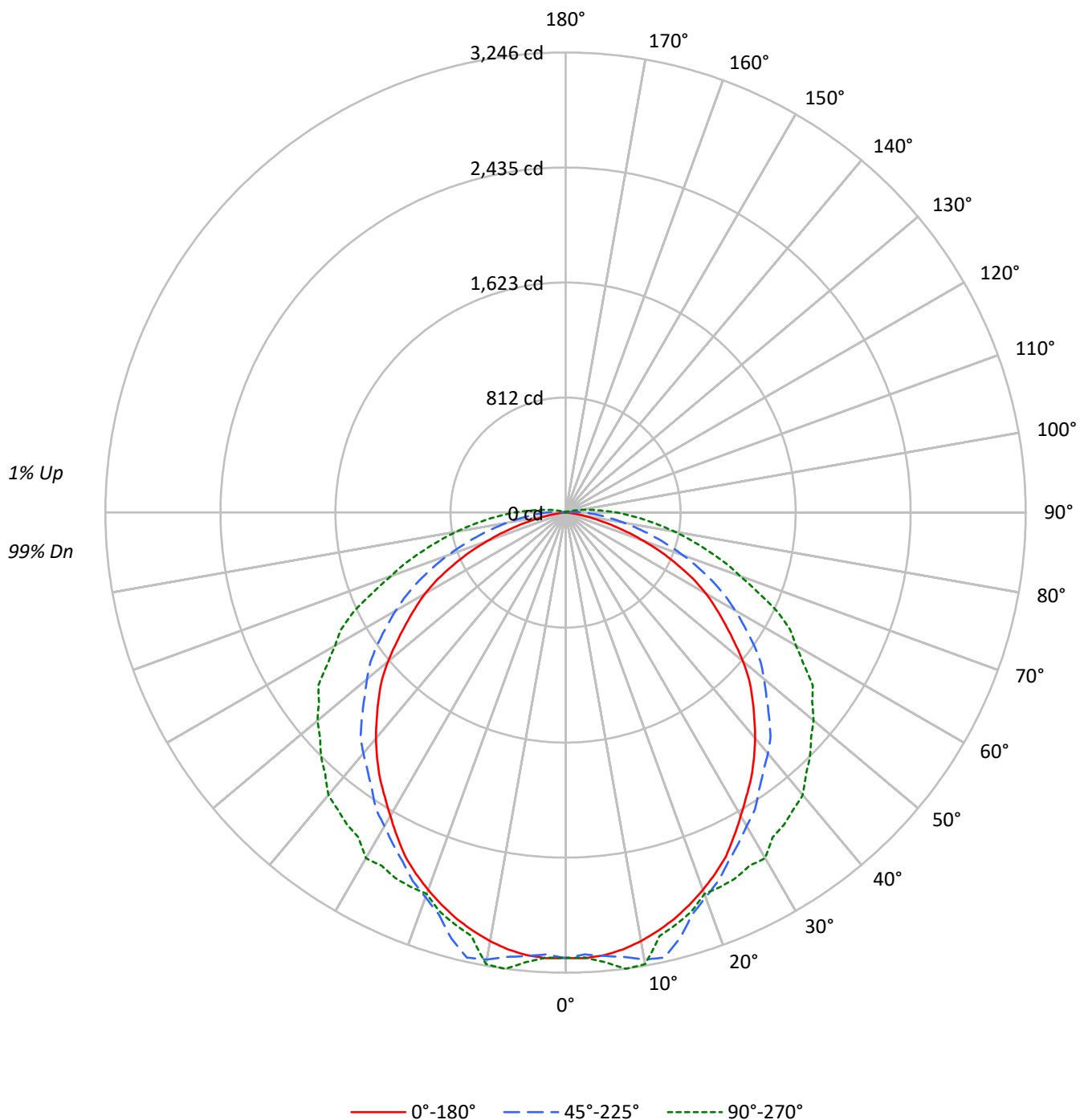
Input Watts (W): 94.7
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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°	4228	4228	4228
5°	4226	4191	4238
10°	4178	4275	4294
15°	4110	4185	4014
20°	4025	3945	3865
25°	3935	3799	3918
30°	3794	3686	3991
35°	3697	3580	3952
40°	3591	3508	4011
45°	3478	3408	3976
50°	3339	3303	3987
55°	3131	3192	4034
60°	2976	3027	3918
65°	2651	2826	3860
70°	2187	2553	3539
75°	1587	2211	3328
80°	918	1868	3116
85°	367	1520	2932

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 55°

Luminance: 4034 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	302.0	3.2
10°-20°	860.1	9.1
20°-30°	1279.8	13.5
30°-40°	1538.3	16.2
40°-50°	1619.1	17.1
50°-60°	1502.4	15.9
60°-70°	1187.9	12.5
70°-80°	725.6	7.7
80°-90°	316.1	3.3
90°-100°	98.4	1.0
100°-110°	22.1	0.2
110°-120°	8.9	0.1
120°-130°	5.0	0.1
130°-140°	1.4	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°	2441.9	25.8
0°-40°	3980.2	42.0
0°-60°	7101.6	75.0
0°-90°	9331.2	98.6
90°-120°	129.4	1.4
90°-150°	135.8	1.4
90°-180°	136.0	1.4
0°-180°	9467.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3142	3142	3142	3142	3142	
5°	3135	3128	3139	3174	3184	297
15°	2967	3081	3111	3008	3010	836
25°	2676	2847	2718	2799	2844	1229
35°	2283	2347	2382	2598	2687	1427
45°	1866	1874	2029	2350	2438	1438
55°	1374	1397	1618	1972	2129	1235
65°	870	898	1140	1509	1646	862
75°	329	436	636	977	1038	359
85°	29	102	248	481	552	46
90°	1	31	130	305	359	1
95°	1	8	57	167	204	0
105°	1	4	12	33	46	1
115°	1	3	9	15	15	1
125°	1	1	4	10	13	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: P517648

CATALOG NUMBER: HVL12-8-LD4-2LO-35-UNV-C-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3142.5	3142.5	3142.5	3142.5	3142.5
2.5°	3146.4	3138.0	3120.8	3137.4	3141.9
5°	3134.8	3128.4	3139.3	3174.5	3183.5
7.5°	3108.6	3132.9	3161.7	3225.7	3246.2
10°	3069.6	3115.6	3202.1	3256.5	3235.4
12.5°	3022.2	3100.3	3216.1	3109.9	3060.6
15°	2967.1	3081.1	3111.2	3008.1	3010.0
17.5°	2902.5	3065.1	2972.2	2969.7	2951.1
20°	2832.7	3011.3	2888.4	2883.3	2863.4
22.5°	2757.8	2940.2	2814.1	2803.9	2857.7
25°	2676.5	2847.4	2717.5	2798.8	2844.2
27.5°	2574.7	2725.8	2636.8	2752.0	2809.0
30°	2471.6	2600.3	2554.2	2714.9	2816.0
32.5°	2375.0	2469.1	2486.4	2700.8	2717.5
35°	2283.4	2346.8	2382.0	2598.4	2686.7
37.5°	2182.9	2200.2	2293.7	2555.5	2640.6
40°	2080.5	2069.6	2219.4	2485.1	2602.9
42.5°	1970.4	1966.6	2140.7	2449.9	2508.8
45°	1866.1	1874.4	2028.7	2350.0	2437.7
47.5°	1759.2	1770.0	1922.4	2240.5	2349.4
50°	1635.0	1649.0	1827.6	2143.2	2283.4
52.5°	1500.5	1527.4	1735.5	2051.1	2192.5
55°	1374.4	1396.8	1618.3	1972.3	2129.2
57.5°	1259.2	1272.6	1497.3	1873.1	1991.5
60°	1145.9	1149.1	1383.4	1763.0	1876.3
62.5°	1015.9	1021.7	1266.2	1633.0	1784.8
65°	870.0	897.5	1140.1	1508.8	1645.8
67.5°	733.6	781.6	1011.4	1394.9	1466.6
70°	587.7	669.0	885.3	1261.1	1311.7
72.5°	453.9	549.3	756.0	1111.3	1182.4
75°	329.0	435.9	635.7	976.9	1038.3
77.5°	221.5	330.3	523.0	828.4	909.7
80°	132.5	241.3	422.5	690.7	782.3
82.5°	67.9	162.0	327.8	579.3	661.3
85°	29.4	102.4	247.7	480.8	551.8
87.5°	8.3	58.3	182.4	388.6	448.7
90°	0.6	30.7	130.0	304.7	359.1
92.5°	0.6	14.7	91.5	230.5	272.1
95°	0.6	7.7	57.0	167.1	204.2
97.5°	0.6	4.5	34.6	118.4	149.8
100°	0.6	3.8	20.5	78.7	106.9
102.5°	0.6	4.5	14.1	49.9	69.8
105°	0.6	4.5	11.5	32.6	46.1
107.5°	1.3	4.5	10.2	24.3	32.0
110°	0.6	3.8	10.9	18.6	25.0

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	1.3	3.2	10.2	15.4	18.6
115°	0.6	2.6	9.0	14.7	15.4
117.5°	1.3	1.9	7.0	14.7	15.4
120°	1.3	1.3	5.8	14.1	16.0
122.5°	1.3	1.3	4.5	12.8	15.4
125°	0.6	1.3	3.8	9.6	13.4
127.5°	1.3	1.3	3.2	7.7	10.2
130°	1.3	1.3	2.6	5.8	7.7
132.5°	1.3	1.3	1.9	4.5	5.8
135°	1.3	1.3	1.3	3.2	4.5
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)