

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: P517652

Luminaire Tested: HVL12-8-LD4-2LO-40-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: P517652
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL12-8-LD4-2LO-40-UNV-C-EDD
Description: 8 FOOT, 12 INCH WIDE, HVL LED LUMINAIRE, WITH 4000K, 80 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9601.9 lumens
Efficiency: N/A
Efficacy: 101.4 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

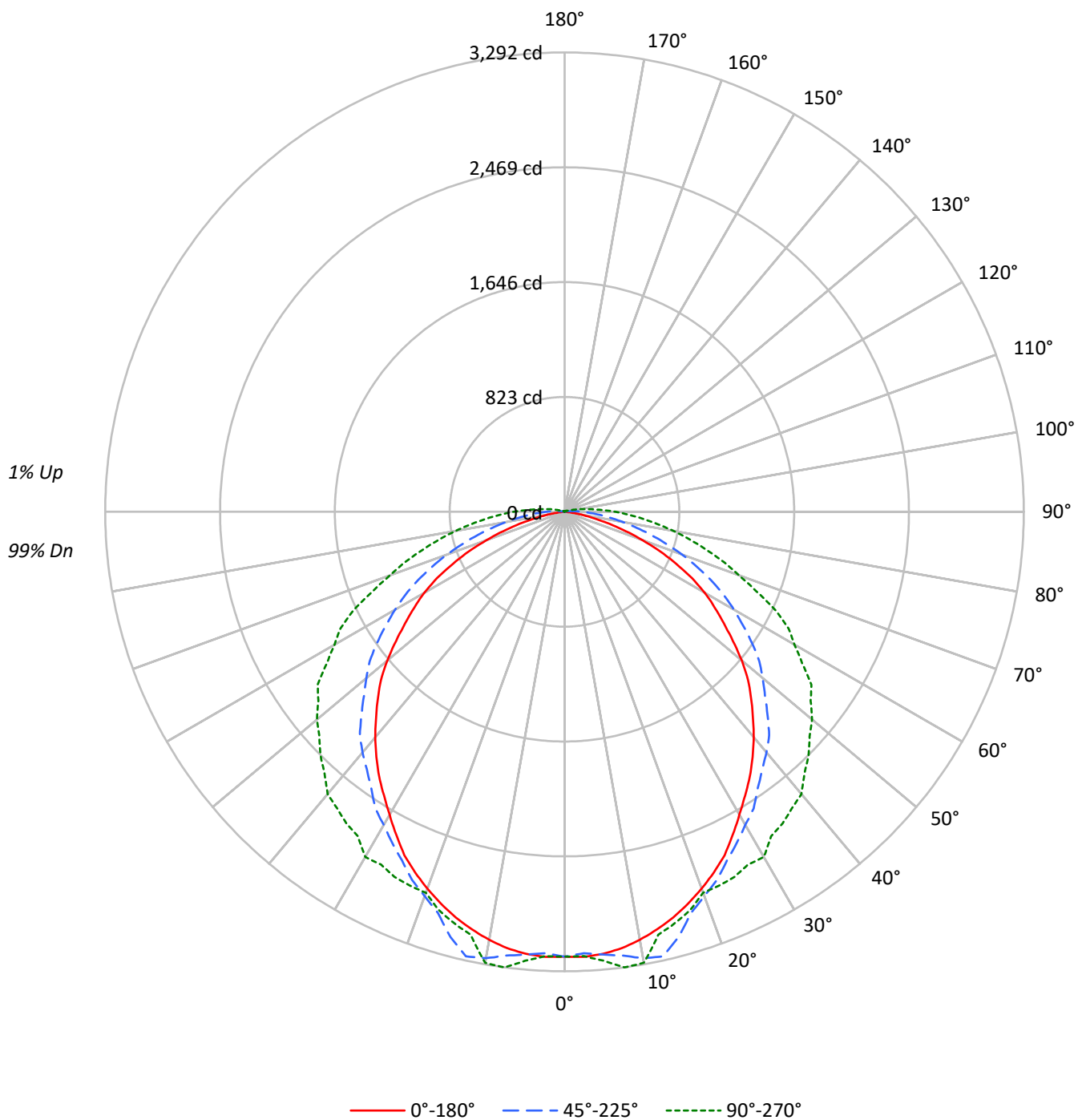
Input Watts (W): 94.7
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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°	4288	4288	4288
5°	4287	4251	4298
10°	4238	4336	4355
15°	4169	4245	4071
20°	4083	4002	3921
25°	3991	3854	3974
30°	3849	3739	4048
35°	3749	3631	4008
40°	3643	3558	4068
45°	3528	3457	4032
50°	3387	3351	4044
55°	3176	3237	4092
60°	3019	3070	3974
65°	2689	2866	3915
70°	2218	2589	3590
75°	1610	2242	3375
80°	931	1895	3160
85°	373	1542	2974

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 55°

Luminance: 4092 cd/sqm

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CATALOG NUMBER: HVL12-8-LD4-2LO-40-UNV-C-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	306.3	3.2
10°-20°	872.4	9.1
20°-30°	1298.0	13.5
30°-40°	1560.2	16.2
40°-50°	1642.2	17.1
50°-60°	1523.8	15.9
60°-70°	1204.8	12.5
70°-80°	735.9	7.7
80°-90°	320.6	3.3
90°-100°	99.8	1.0
100°-110°	22.4	0.2
110°-120°	9.0	0.1
120°-130°	5.1	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°	2476.7	25.8
0°-40°	4036.9	42.0
0°-60°	7202.9	75.0
0°-90°	9464.3	98.6
90°-120°	131.2	1.4
90°-150°	137.6	1.4
90°-180°	138.0	1.4
0°-180°	9601.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3187	3187	3187	3187	3187	
5°	3180	3173	3184	3220	3229	301
15°	3009	3125	3156	3051	3053	848
25°	2715	2888	2756	2839	2885	1246
35°	2316	2380	2416	2635	2725	1447
45°	1893	1901	2058	2384	2472	1459
55°	1394	1417	1641	2000	2160	1253
65°	882	910	1156	1530	1669	874
75°	334	442	645	991	1053	364
85°	30	104	251	488	560	46
90°	1	31	132	309	364	1
95°	1	8	58	170	207	0
105°	1	4	12	33	47	1
115°	1	3	9	15	16	1
125°	1	1	4	10	14	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: P517652

CATALOG NUMBER: HVL12-8-LD4-2LO-40-UNV-C-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3187.3	3187.3	3187.3	3187.3	3187.3
2.5°	3191.2	3182.8	3165.3	3182.1	3186.7
5°	3179.6	3173.1	3184.1	3219.8	3228.9
7.5°	3152.9	3177.6	3206.8	3271.7	3292.5
10°	3113.3	3160.1	3247.7	3302.9	3281.5
12.5°	3065.3	3144.5	3262.0	3154.2	3104.2
15°	3009.4	3125.0	3155.5	3051.0	3052.9
17.5°	2943.9	3108.8	3014.6	3012.0	2993.2
20°	2873.1	3054.2	2929.6	2924.4	2904.3
22.5°	2797.1	2982.2	2854.3	2843.9	2898.4
25°	2714.7	2888.0	2756.2	2838.7	2884.8
27.5°	2611.4	2764.7	2674.4	2791.3	2849.1
30°	2506.9	2637.4	2590.6	2753.6	2856.2
32.5°	2408.8	2504.3	2521.8	2739.3	2756.2
35°	2316.0	2380.3	2416.0	2635.4	2725.1
37.5°	2214.1	2231.6	2326.4	2591.9	2678.3
40°	2110.2	2099.1	2251.1	2520.5	2640.0
42.5°	1998.5	1994.6	2171.2	2484.8	2544.5
45°	1892.7	1901.1	2057.6	2383.5	2472.5
47.5°	1784.2	1795.3	1949.8	2272.5	2382.9
50°	1658.3	1672.6	1853.7	2173.8	2316.0
52.5°	1521.9	1549.2	1760.2	2080.3	2223.8
55°	1394.0	1416.7	1641.4	2000.4	2159.5
57.5°	1277.1	1290.8	1518.7	1899.8	2019.9
60°	1162.2	1165.5	1403.1	1788.1	1903.1
62.5°	1030.4	1036.3	1284.3	1656.3	1810.2
65°	882.4	910.3	1156.4	1530.4	1669.3
67.5°	744.1	792.8	1025.9	1414.8	1487.5
70°	596.0	678.5	898.0	1279.1	1330.4
72.5°	460.3	557.1	766.8	1127.2	1199.2
75°	333.7	442.2	644.7	990.8	1053.1
77.5°	224.7	335.0	530.5	840.2	922.6
80°	134.4	244.8	428.5	700.6	793.4
82.5°	68.8	164.3	332.4	587.6	670.7
85°	29.9	103.9	251.3	487.6	559.7
87.5°	8.4	59.1	185.0	394.1	455.1
90°	0.6	31.2	131.8	309.1	364.2
92.5°	0.6	14.9	92.8	233.7	275.9
95°	0.6	7.8	57.8	169.5	207.1
97.5°	0.6	4.5	35.1	120.1	151.9
100°	0.6	3.9	20.8	79.9	108.4
102.5°	0.6	4.5	14.3	50.6	70.8
105°	0.6	4.5	11.7	33.1	46.7
107.5°	1.3	4.5	10.4	24.7	32.5
110°	0.6	3.9	11.0	18.8	25.3

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CATALOG NUMBER: HVL12-8-LD4-2LO-40-UNV-C-EDD

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	1.3	3.2	10.4	15.6	18.8
115°	0.6	2.6	9.1	14.9	15.6
117.5°	1.3	1.9	7.1	14.9	15.6
120°	1.3	1.3	5.8	14.3	16.2
122.5°	1.3	1.3	4.5	13.0	15.6
125°	0.6	1.3	3.9	9.7	13.6
127.5°	1.3	1.3	3.2	7.8	10.4
130°	1.3	1.3	2.6	5.8	7.8
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)