

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: P518168

Luminaire Tested: HVL8-8-LD4-1HI-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: P518168
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-8-LD4-1HI-50-UNV-C-EDD
Description: 8 FOOT, 8 INCH WIDE, HVL LED LUMINAIRE, WITH 5000K, 80 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8453.0 lumens
Efficiency: N/A
Efficacy: 98.3 lumens/watt
Spacing Criteria (0/90/45): 1.18 / 1.32 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.67' x L: 8' x H: 0.17')
CIE Type: Direct

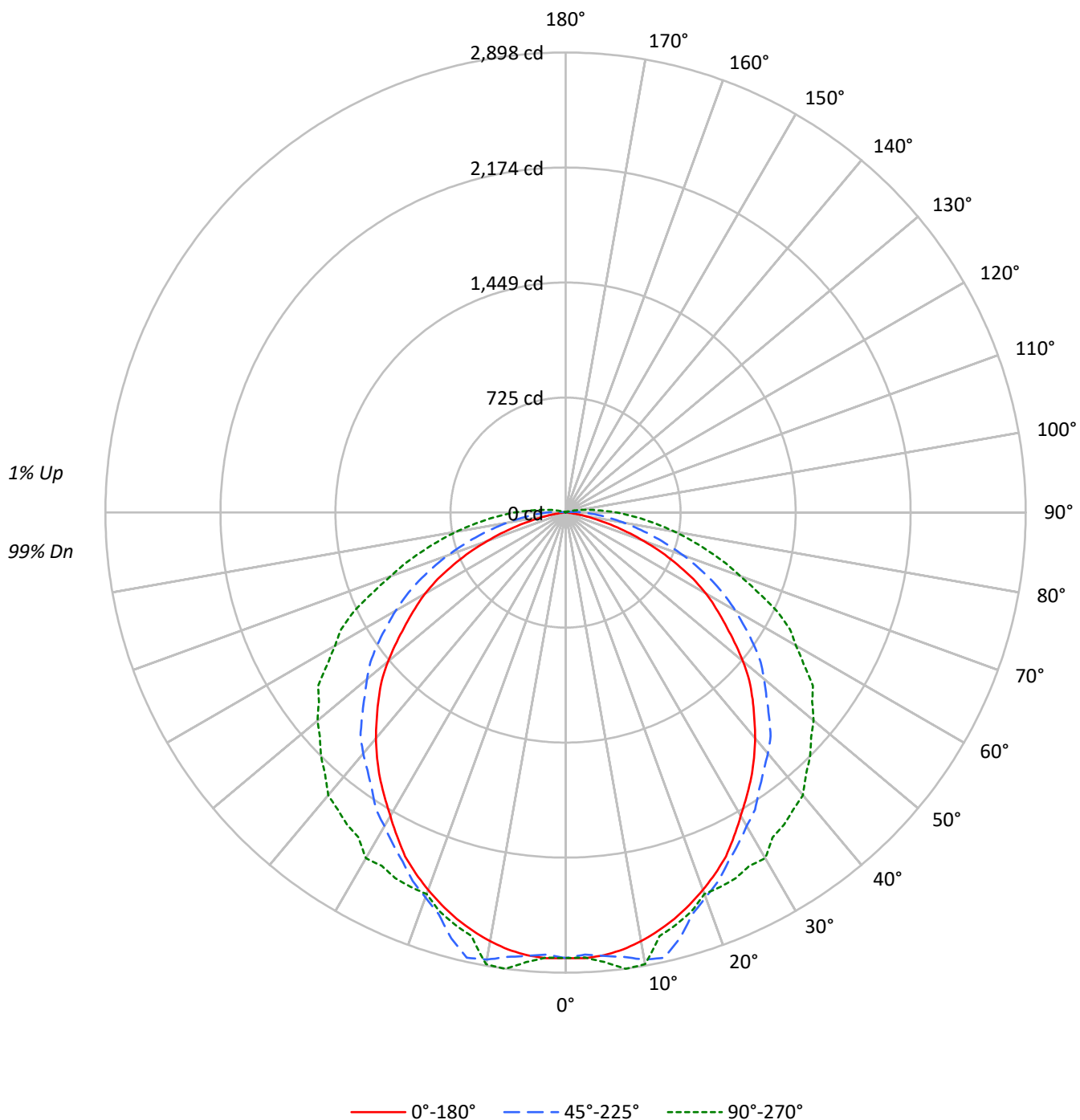
Input Watts (W): 86
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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°	5663	5663	5663
5°	5660	5585	5635
10°	5596	5668	5670
15°	5505	5521	5263
20°	5391	5178	5033
25°	5271	4960	5065
30°	5082	4786	5120
35°	4951	4621	5030
40°	4810	4498	5061
45°	4659	4339	4970
50°	4472	4172	4932
55°	4193	3992	4929
60°	3986	3744	4719
65°	3551	3446	4568
70°	2929	3056	4097
75°	2126	2581	3740
80°	1230	2101	3357
85°	492	1606	2957

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 45°

Luminance: 4970 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	269.7	3.2
10°-20°	768.0	9.1
20°-30°	1142.7	13.5
30°-40°	1373.5	16.2
40°-50°	1445.7	17.1
50°-60°	1341.4	15.9
60°-70°	1060.6	12.5
70°-80°	647.9	7.7
80°-90°	282.3	3.3
90°-100°	87.9	1.0
100°-110°	19.7	0.2
110°-120°	7.9	0.1
120°-130°	4.5	0.1
130°-140°	1.2	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°	2180.4	25.8
0°-40°	3553.9	42.0
0°-60°	6341.0	75.0
0°-90°	8331.8	98.6
90°-120°	115.6	1.4
90°-150°	121.2	1.4
90°-180°	121.0	1.4
0°-180°	8453.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2806	2806	2806	2806	2806	
5°	2799	2793	2803	2834	2842	265
15°	2649	2751	2778	2686	2688	746
25°	2390	2542	2426	2499	2540	1097
35°	2039	2095	2127	2320	2399	1274
45°	1666	1674	1811	2098	2177	1284
55°	1227	1247	1445	1761	1901	1103
65°	777	801	1018	1347	1470	769
75°	294	389	568	872	927	321
85°	26	92	221	429	493	41
90°	1	27	116	272	321	1
95°	1	7	51	149	182	0
105°	1	4	10	29	41	1
115°	1	2	8	13	14	1
125°	1	1	3	9	12	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: P518168

CATALOG NUMBER: HVL8-8-LD4-1HI-50-UNV-C-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2805.9	2805.9	2805.9	2805.9	2805.9
2.5°	2809.4	2801.9	2786.5	2801.4	2805.4
5°	2799.1	2793.4	2803.1	2834.5	2842.5
7.5°	2775.6	2797.4	2823.1	2880.2	2898.5
10°	2740.8	2781.9	2859.1	2907.7	2888.8
12.5°	2698.5	2768.2	2871.7	2776.8	2732.8
15°	2649.3	2751.1	2777.9	2685.9	2687.6
17.5°	2591.6	2736.8	2653.9	2651.6	2635.0
20°	2529.3	2688.8	2579.0	2574.4	2556.7
22.5°	2462.4	2625.3	2512.7	2503.6	2551.6
25°	2389.8	2542.4	2426.4	2499.0	2539.6
27.5°	2298.9	2433.8	2354.4	2457.3	2508.1
30°	2206.9	2321.8	2280.6	2424.1	2514.4
32.5°	2120.6	2204.6	2220.1	2411.5	2426.4
35°	2038.9	2095.4	2126.9	2320.1	2399.0
37.5°	1949.1	1964.6	2048.0	2281.8	2357.8
40°	1857.7	1848.0	1981.7	2218.9	2324.1
42.5°	1759.4	1755.9	1911.4	2187.5	2240.1
45°	1666.2	1673.6	1811.4	2098.3	2176.6
47.5°	1570.7	1580.4	1716.5	2000.6	2097.7
50°	1459.8	1472.4	1631.9	1913.7	2038.9
52.5°	1339.8	1363.8	1549.6	1831.4	1957.7
55°	1227.2	1247.2	1445.0	1761.1	1901.1
57.5°	1124.3	1136.3	1336.9	1672.5	1778.2
60°	1023.1	1026.0	1235.2	1574.2	1675.3
62.5°	907.1	912.3	1130.6	1458.1	1593.6
65°	776.8	801.4	1018.0	1347.2	1469.6
67.5°	655.0	697.9	903.1	1245.5	1309.5
70°	524.7	597.3	790.5	1126.0	1171.2
72.5°	405.3	490.4	675.0	992.3	1055.7
75°	293.8	389.3	567.6	872.2	927.1
77.5°	197.8	294.9	467.0	739.6	812.2
80°	118.3	215.5	377.2	616.7	698.5
82.5°	60.6	144.6	292.7	517.3	590.5
85°	26.3	91.5	221.2	429.3	492.7
87.5°	7.4	52.0	162.9	347.0	400.7
90°	0.6	27.4	116.0	272.1	320.7
92.5°	0.6	13.1	81.7	205.8	242.9
95°	0.6	6.9	50.9	149.2	182.3
97.5°	0.6	4.0	30.9	105.7	133.8
100°	0.6	3.4	18.3	70.3	95.5
102.5°	0.6	4.0	12.6	44.6	62.3
105°	0.6	4.0	10.3	29.2	41.2
107.5°	1.1	4.0	9.1	21.7	28.6
110°	0.6	3.4	9.7	16.6	22.3

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CATALOG NUMBER: HVL8-8-LD4-1HI-50-UNV-C-EDD

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	1.1	2.9	9.1	13.7	16.6
115°	0.6	2.3	8.0	13.1	13.7
117.5°	1.1	1.7	6.3	13.1	13.7
120°	1.1	1.1	5.1	12.6	14.3
122.5°	1.1	1.1	4.0	11.4	13.7
125°	0.6	1.1	3.4	8.6	12.0
127.5°	1.1	1.1	2.9	6.9	9.1
130°	1.1	1.1	2.3	5.1	6.9
132.5°	1.1	1.1	1.7	4.0	5.1
135°	1.1	1.1	1.1	2.9	4.0
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)