

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: P517588

Luminaire Tested: HVL12-8-LD4-1HI-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: P517588
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL12-8-LD4-1HI-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: 8381.0 lumens
Efficiency: N/A
Efficacy: 94.9 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

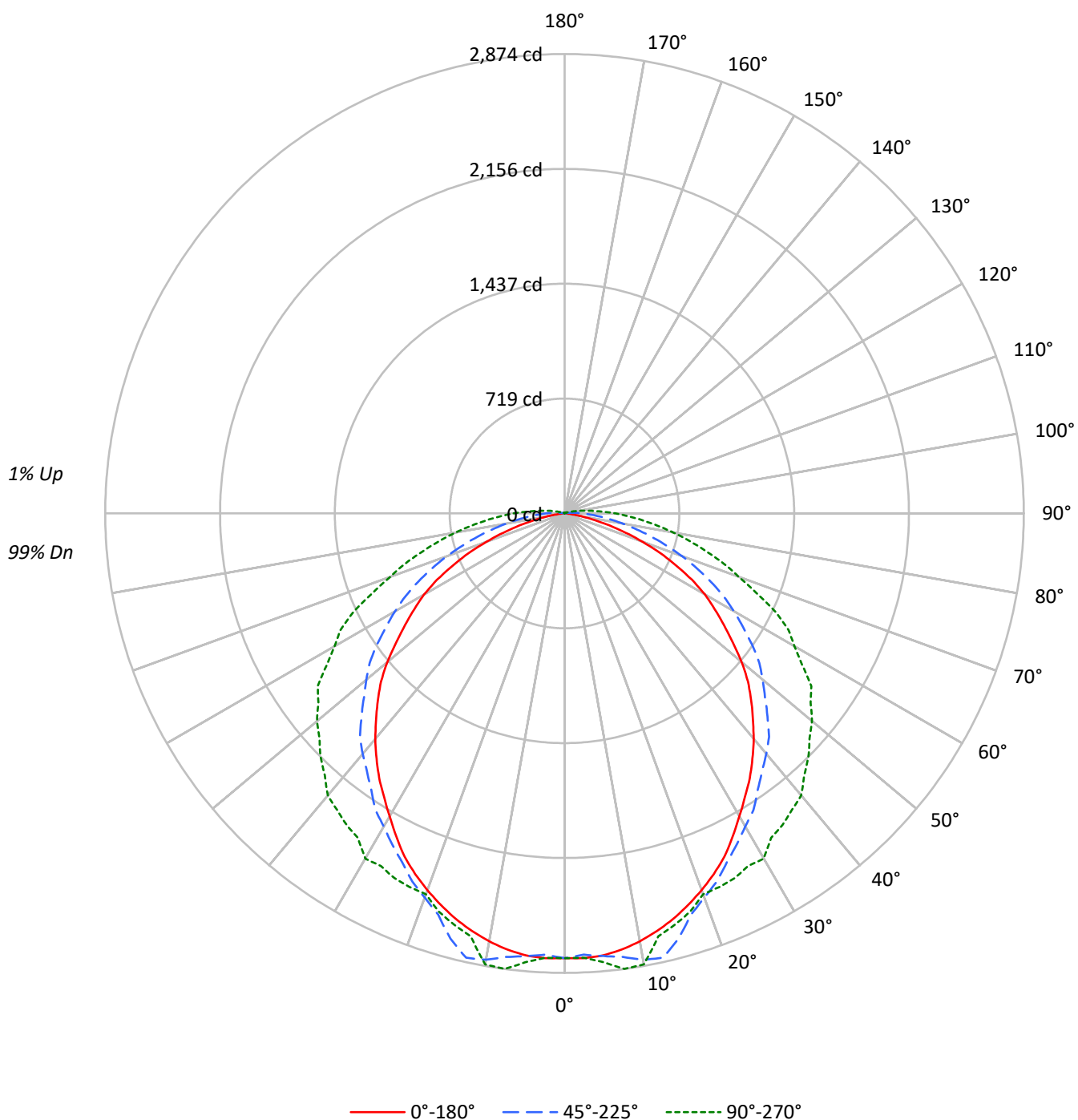
Input Watts (W): 88.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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°	3743	3743	3743
5°	3741	3711	3752
10°	3699	3784	3801
15°	3639	3705	3553
20°	3564	3493	3422
25°	3484	3363	3468
30°	3359	3263	3533
35°	3273	3169	3498
40°	3179	3105	3551
45°	3079	3017	3520
50°	2956	2925	3530
55°	2772	2826	3571
60°	2635	2680	3469
65°	2347	2502	3417
70°	1936	2260	3133
75°	1405	1957	2946
80°	813	1654	2758
85°	325	1346	2596

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 55°

Luminance: 3571 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	267.4	3.2
10°-20°	761.4	9.1
20°-30°	1132.9	13.5
30°-40°	1361.8	16.2
40°-50°	1433.4	17.1
50°-60°	1330.0	15.9
60°-70°	1051.6	12.5
70°-80°	642.3	7.7
80°-90°	279.9	3.3
90°-100°	87.1	1.0
100°-110°	19.6	0.2
110°-120°	7.9	0.1
120°-130°	4.4	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°	2161.8	25.8
0°-40°	3523.6	42.0
0°-60°	6287.0	75.0
0°-90°	8260.8	98.6
90°-120°	114.6	1.4
90°-150°	120.2	1.4
90°-180°	120.0	1.4
0°-180°	8381.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2782	2782	2782	2782	2782	
5°	2775	2770	2779	2810	2818	263
15°	2627	2728	2754	2663	2665	740
25°	2370	2521	2406	2478	2518	1088
35°	2022	2078	2109	2300	2378	1263
45°	1652	1659	1796	2080	2158	1273
55°	1217	1237	1433	1746	1885	1093
65°	770	794	1009	1336	1457	763
75°	291	386	563	865	919	318
85°	26	91	219	426	488	40
90°	1	27	115	270	318	1
95°	1	7	50	148	181	0
105°	1	4	10	29	41	1
115°	1	2	8	13	14	1
125°	1	1	3	8	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

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CATALOG NUMBER: HVL12-8-LD4-1HI-40-UNV-C-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2782.0	2782.0	2782.0	2782.0	2782.0
2.5°	2785.4	2778.1	2762.8	2777.5	2781.5
5°	2775.2	2769.6	2779.2	2810.4	2818.3
7.5°	2752.0	2773.5	2799.0	2855.7	2873.8
10°	2717.4	2758.2	2834.7	2882.9	2864.2
12.5°	2675.5	2744.6	2847.2	2753.1	2709.5
15°	2626.8	2727.6	2754.3	2663.0	2664.7
17.5°	2569.5	2713.5	2631.3	2629.0	2612.6
20°	2507.7	2665.9	2557.0	2552.5	2534.9
22.5°	2441.4	2603.0	2491.3	2482.2	2529.8
25°	2369.5	2520.8	2405.7	2477.7	2517.9
27.5°	2279.4	2413.1	2334.3	2436.3	2486.8
30°	2188.1	2302.0	2261.2	2403.5	2493.0
32.5°	2102.5	2185.8	2201.1	2391.0	2405.7
35°	2021.5	2077.6	2108.8	2300.3	2378.5
37.5°	1932.5	1947.8	2030.6	2262.4	2337.7
40°	1841.8	1832.2	1964.8	2200.0	2304.3
42.5°	1744.4	1741.0	1895.1	2168.8	2221.0
45°	1652.0	1659.4	1795.9	2080.4	2158.1
47.5°	1557.4	1567.0	1701.9	1983.5	2079.9
50°	1447.4	1459.9	1618.0	1897.4	2021.5
52.5°	1328.4	1352.2	1536.4	1815.8	1941.0
55°	1216.8	1236.6	1432.7	1746.1	1884.9
57.5°	1114.7	1126.6	1325.6	1658.2	1763.1
60°	1014.4	1017.3	1224.7	1560.8	1661.1
62.5°	899.4	904.5	1121.0	1445.7	1580.0
65°	770.2	794.5	1009.3	1335.8	1457.0
67.5°	649.5	692.0	895.4	1234.9	1298.4
70°	520.3	592.2	783.8	1116.4	1161.2
72.5°	401.8	486.2	669.3	983.8	1046.7
75°	291.3	385.9	562.8	864.8	919.2
77.5°	196.1	292.4	463.0	733.3	805.3
80°	117.3	213.7	374.0	611.5	692.5
82.5°	60.1	143.4	290.2	512.9	585.4
85°	26.1	90.7	219.3	425.6	488.5
87.5°	7.4	51.6	161.5	344.0	397.3
90°	0.6	27.2	115.0	269.8	317.9
92.5°	0.6	13.0	81.0	204.0	240.9
95°	0.6	6.8	50.4	147.9	180.8
97.5°	0.6	4.0	30.6	104.8	132.6
100°	0.6	3.4	18.1	69.7	94.6
102.5°	0.6	4.0	12.5	44.2	61.8
105°	0.6	4.0	10.2	28.9	40.8
107.5°	1.1	4.0	9.1	21.5	28.3
110°	0.6	3.4	9.6	16.4	22.1

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CATALOG NUMBER: HVL12-8-LD4-1HI-40-UNV-C-EDD

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	1.1	2.8	9.1	13.6	16.4
115°	0.6	2.3	7.9	13.0	13.6
117.5°	1.1	1.7	6.2	13.0	13.6
120°	1.1	1.1	5.1	12.5	14.2
122.5°	1.1	1.1	4.0	11.3	13.6
125°	0.6	1.1	3.4	8.5	11.9
127.5°	1.1	1.1	2.8	6.8	9.1
130°	1.1	1.1	2.3	5.1	6.8
132.5°	1.1	1.1	1.7	4.0	5.1
135°	1.1	1.1	1.1	2.8	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)