

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: P517587

Luminaire Tested: HVL12-8-LD4-1HI-40-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: P517587
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-90
Description: 8 FOOT, 12 INCH WIDE, HVL LED LUMINAIRE, WITH 4000K, 90 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9974.9 lumens
Efficiency: N/A
Efficacy: 113.0 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

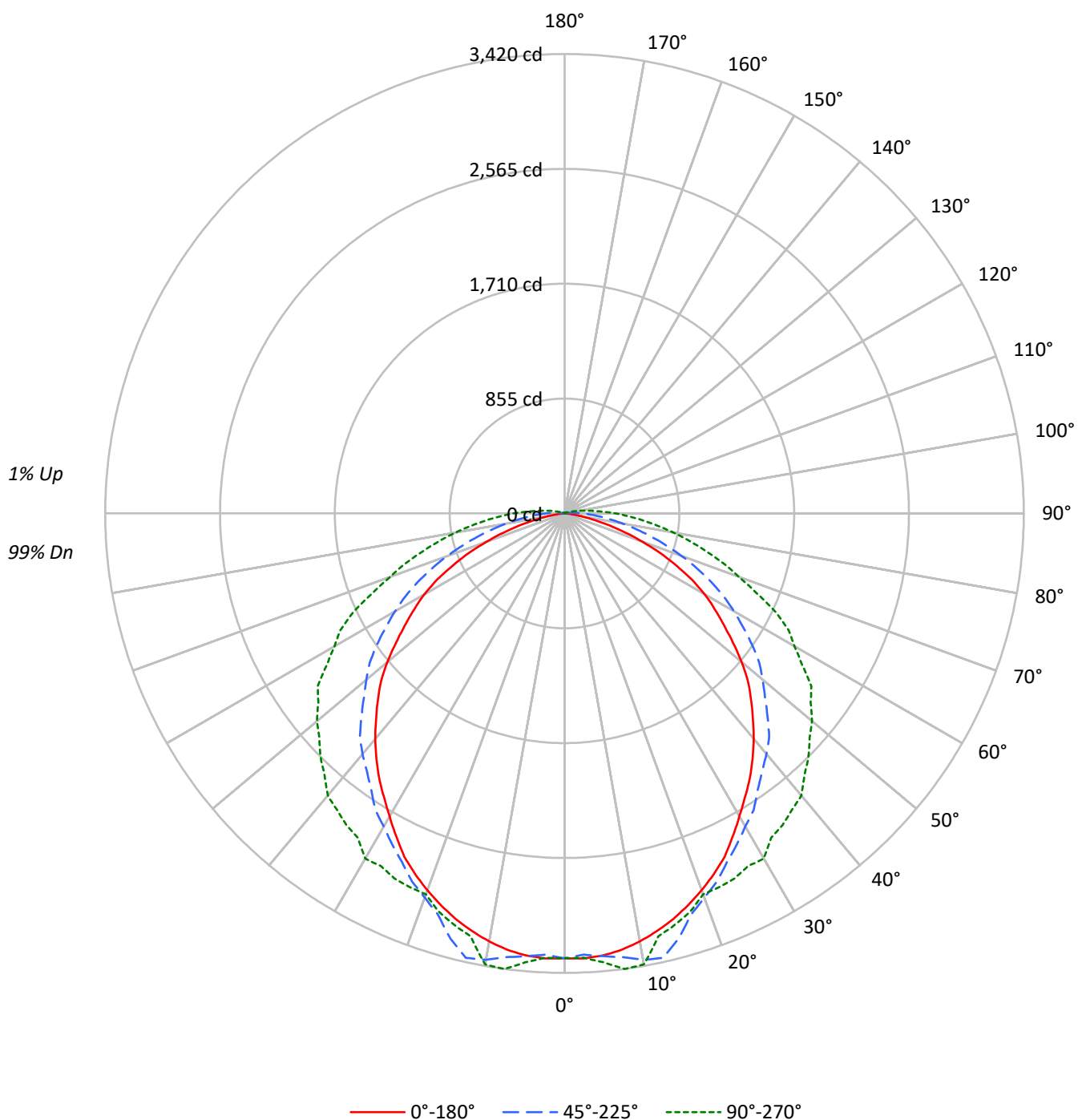
Input Watts (W): 88.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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°	4455	4455	4455
5°	4453	4416	4465
10°	4403	4504	4525
15°	4331	4410	4229
20°	4241	4157	4073
25°	4146	4003	4128
30°	3998	3884	4205
35°	3895	3772	4164
40°	3784	3696	4226
45°	3665	3591	4189
50°	3519	3481	4202
55°	3299	3363	4251
60°	3136	3190	4128
65°	2794	2978	4067
70°	2304	2690	3729
75°	1672	2329	3506
80°	967	1969	3283
85°	387	1602	3089

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 55°

Luminance: 4251 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	318.2	3.2
10°-20°	906.3	9.1
20°-30°	1348.4	13.5
30°-40°	1620.8	16.2
40°-50°	1706.0	17.1
50°-60°	1583.0	15.9
60°-70°	1251.6	12.5
70°-80°	764.5	7.7
80°-90°	333.1	3.3
90°-100°	103.7	1.0
100°-110°	23.3	0.2
110°-120°	9.4	0.1
120°-130°	5.3	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°	2572.9	25.8
0°-40°	4193.7	42.0
0°-60°	7482.7	75.0
0°-90°	9831.9	98.6
90°-120°	136.3	1.4
90°-150°	143.0	1.4
90°-180°	143.0	1.4
0°-180°	9974.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3311	3311	3311	3311	3311	
5°	3303	3296	3308	3345	3354	313
15°	3126	3246	3278	3170	3172	881
25°	2820	3000	2863	2949	2997	1295
35°	2406	2473	2510	2738	2831	1504
45°	1966	1975	2138	2476	2568	1516
55°	1448	1472	1705	2078	2243	1301
65°	917	946	1201	1590	1734	908
75°	347	459	670	1029	1094	378
85°	31	108	261	507	581	48
90°	1	32	137	321	378	1
95°	1	8	60	176	215	1
105°	1	5	12	34	49	1
115°	1	3	9	16	16	1
125°	1	1	4	10	14	1
135°	1	1	1	3	5	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°	3311.2	3311.2	3311.2	3311.2	3311.2
2.5°	3315.2	3306.4	3288.2	3305.8	3310.5
5°	3303.1	3296.3	3307.8	3344.9	3354.3
7.5°	3275.4	3301.0	3331.4	3398.8	3420.4
10°	3234.3	3282.8	3373.9	3431.2	3409.0
12.5°	3184.4	3266.6	3388.7	3276.8	3224.8
15°	3126.3	3246.4	3278.1	3169.5	3171.5
17.5°	3058.2	3229.5	3131.7	3129.0	3109.5
20°	2984.7	3172.9	3043.4	3038.0	3017.1
22.5°	2905.8	3098.0	2965.1	2954.3	3011.0
25°	2820.1	3000.2	2863.3	2948.9	2996.8
27.5°	2712.9	2872.1	2778.3	2899.7	2959.7
30°	2604.3	2739.8	2691.3	2860.6	2967.2
32.5°	2502.4	2601.6	2619.8	2845.7	2863.3
35°	2406.0	2472.7	2509.8	2737.8	2830.9
37.5°	2300.1	2318.3	2416.8	2692.6	2782.3
40°	2192.1	2180.7	2338.5	2618.4	2742.5
42.5°	2076.1	2072.1	2255.6	2581.3	2643.4
45°	1966.2	1975.0	2137.5	2476.1	2568.5
47.5°	1853.5	1865.0	2025.5	2360.8	2475.4
50°	1722.7	1737.5	1925.7	2258.3	2406.0
52.5°	1581.0	1609.4	1828.6	2161.1	2310.2
55°	1448.2	1471.8	1705.2	2078.2	2243.4
57.5°	1326.8	1340.9	1577.7	1973.6	2098.4
60°	1207.4	1210.7	1457.6	1857.6	1977.0
62.5°	1070.4	1076.5	1334.2	1720.7	1880.5
65°	916.7	945.7	1201.3	1589.8	1734.2
67.5°	773.0	823.6	1065.7	1469.8	1545.3
70°	619.2	704.9	932.8	1328.8	1382.1
72.5°	478.2	578.7	796.6	1170.9	1245.8
75°	346.7	459.3	669.8	1029.3	1094.1
77.5°	233.4	348.0	551.1	872.8	958.5
80°	139.6	254.3	445.2	727.8	824.2
82.5°	71.5	170.7	345.3	610.4	696.8
85°	31.0	107.9	261.0	506.6	581.4
87.5°	8.8	61.4	192.2	409.4	472.8
90°	0.7	32.4	136.9	321.1	378.4
92.5°	0.7	15.5	96.5	242.8	286.7
95°	0.7	8.1	60.0	176.0	215.2
97.5°	0.7	4.7	36.4	124.8	157.8
100°	0.7	4.0	21.6	83.0	112.6
102.5°	0.7	4.7	14.8	52.6	73.5
105°	0.7	4.7	12.1	34.4	48.6
107.5°	1.3	4.7	10.8	25.6	33.7
110°	0.7	4.0	11.5	19.6	26.3

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CATALOG NUMBER: HVL12-8-LD4-1HI-40-UNV-C-EDD-90

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	1.3	3.4	10.8	16.2	19.6
115°	0.7	2.7	9.4	15.5	16.2
117.5°	1.3	2.0	7.4	15.5	16.2
120°	1.3	1.3	6.1	14.8	16.9
122.5°	1.3	1.3	4.7	13.5	16.2
125°	0.7	1.3	4.0	10.1	14.2
127.5°	1.3	1.3	3.4	8.1	10.8
130°	1.3	1.3	2.7	6.1	8.1
132.5°	1.3	1.3	2.0	4.7	6.1
135°	1.3	1.3	1.3	3.4	4.7
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)