

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: P517898

Luminaire Tested: HVL8-2-LD4-1LO-50-UNV-O-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: P517898
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-2-LD4-1LO-50-UNV-O-EDD
Description: 2 FOOT, 8 INCH WIDE, HVL LED LUMINAIRE, WITH 5000K, 80 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1154.0 lumens
Efficiency: N/A
Efficacy: 100.3 lumens/watt
Spacing Criteria (0/90/45): 1.25 / 1.27 / 1.38
Luminous Opening: Rectangular w/ Sides (W: 0.67' x L: 2' x H: 0.17')
CIE Type: Direct

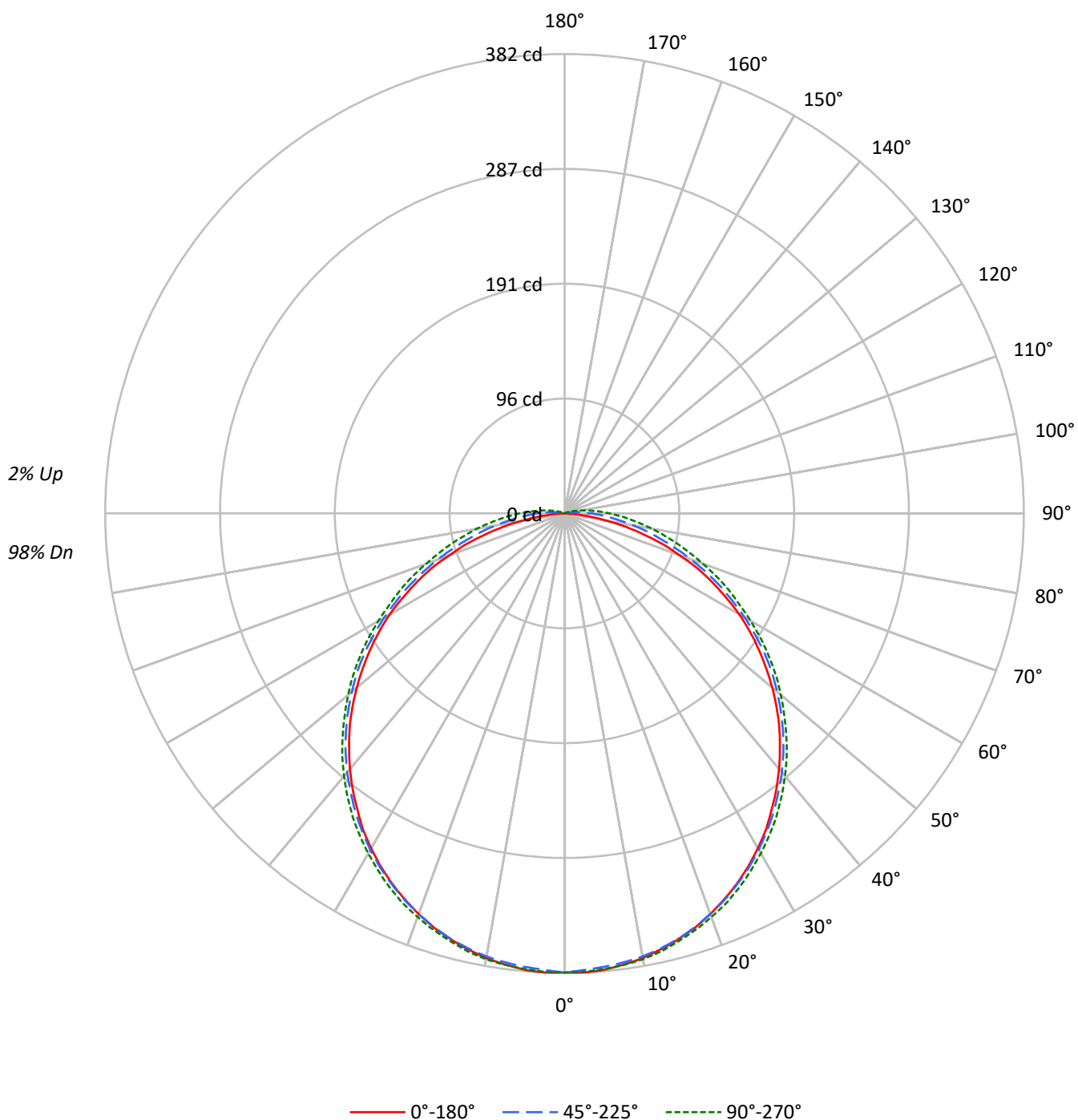
Input Watts (W): 11.5
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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				0
RW	70	50	30	10	70	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
1	108	102	98	94	105	100	96	92	95	92	89	91	88	86	87	85	83
2	98	89	82	76	95	87	80	75	83	77	73	79	75	71	76	72	69
3	89	78	69	63	86	76	68	62	73	66	61	70	64	59	67	62	58
4	81	69	60	53	79	67	59	52	65	57	52	62	56	51	60	54	50
5	75	61	52	45	72	60	52	45	58	50	44	56	49	44	54	48	43
6	69	55	46	40	67	54	46	39	52	45	39	50	44	38	49	43	38
7	64	50	41	35	62	49	41	35	47	40	34	46	39	34	44	38	34
8	59	46	37	31	58	45	37	31	43	36	31	42	35	30	41	35	30
9	55	42	34	28	54	41	33	28	40	33	28	39	32	27	38	32	27
10	52	39	31	25	51	38	30	25	37	30	25	36	29	25	35	29	25

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3081	3081	3081
5°	3064	3004	3015
10°	3033	2943	2955
15°	2995	2877	2883
20°	2956	2804	2812
25°	2911	2729	2740
30°	2860	2650	2659
35°	2798	2564	2578
40°	2734	2474	2484
45°	2664	2375	2383
50°	2577	2264	2274
55°	2482	2141	2154
60°	2369	1985	2013
65°	2197	1811	1874
70°	1959	1607	1713
75°	1634	1385	1565
80°	1171	1168	1430
85°	564	945	1304

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2664 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	36.1	3.1
10°-20°	103.6	9.0
20°-30°	157.2	13.6
30°-40°	190.1	16.5
40°-50°	198.3	17.2
50°-60°	181.3	15.7
60°-70°	141.4	12.2
70°-80°	88.4	7.7
80°-90°	40.2	3.5
90°-100°	13.5	1.2
100°-110°	3.4	0.3
110°-120°	0.5	0.0
120°-130°	0.0	0.0
130°-140°	0.0	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°	296.9	25.7
0°-40°	487.0	42.2
0°-60°	866.7	75.1
0°-90°	1136.6	98.5
90°-120°	17.4	1.5
90°-150°	17.4	1.5
90°-180°	17.0	1.5
0°-180°	1154.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	382	382	382	382	382	
5°	381	380	378	380	380	36
15°	366	367	366	368	368	103
25°	340	340	340	343	344	156
35°	300	302	303	306	307	188
45°	253	255	257	260	261	195
55°	197	200	203	206	208	176
65°	136	138	143	148	151	134
75°	69	73	84	94	97	73
85°	12	22	38	50	54	15
90°	0	8	22	33	37	0
95°	0	2	12	21	24	0
105°	0	0	2	6	8	0
115°	0	0	0	1	1	0
125°	0	0	0	0	0	0
135°	0	0	0	0	0	0
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°	381.7	381.7	381.7	381.7	381.7
2.5°	382.1	381.6	379.9	381.6	381.5
5°	380.9	380.1	378.4	380.2	380.2
7.5°	378.3	378.1	376.5	378.6	378.6
10°	375.4	375.3	374.0	376.3	376.4
12.5°	371.2	371.6	370.4	372.6	372.9
15°	366.4	367.0	366.0	368.1	368.0
17.5°	361.1	361.4	360.7	363.0	363.0
20°	354.5	355.0	354.4	356.8	357.1
22.5°	347.2	347.8	347.8	350.3	351.0
25°	339.5	339.7	340.1	343.0	343.5
27.5°	330.9	331.4	332.0	334.6	335.2
30°	321.6	322.3	323.0	325.7	326.4
32.5°	311.7	312.4	313.3	316.8	317.2
35°	300.5	301.9	303.1	306.2	307.4
37.5°	289.4	291.1	292.2	295.5	296.5
40°	277.6	279.3	281.2	284.6	285.2
42.5°	265.2	267.2	269.5	272.5	273.6
45°	252.8	255.1	257.1	259.7	260.9
47.5°	239.4	241.7	244.2	247.1	247.9
50°	225.6	228.2	230.9	233.6	235.0
52.5°	211.4	214.5	217.6	220.4	221.8
55°	197.3	199.7	203.3	206.3	207.7
57.5°	182.7	184.7	188.0	192.9	193.6
60°	167.9	169.7	173.1	177.1	178.7
62.5°	151.5	153.9	157.5	162.6	164.0
65°	135.6	137.9	142.7	148.4	150.7
67.5°	120.2	121.0	127.1	133.1	136.9
70°	102.0	105.1	112.2	119.5	122.4
72.5°	86.4	89.4	97.3	105.8	109.4
75°	68.7	72.9	83.5	93.5	97.0
77.5°	53.1	57.8	70.9	81.0	85.0
80°	37.1	44.4	58.7	70.0	74.4
82.5°	23.3	32.3	47.6	59.5	63.3
85°	11.9	22.0	37.7	49.8	54.3
87.5°	3.1	14.2	29.3	40.9	45.4
90°	0.1	8.2	22.2	33.4	37.4
92.5°	0.1	4.6	16.6	26.5	30.7
95°	0.1	2.2	11.5	20.9	24.1
97.5°	0.1	0.9	7.9	15.7	19.0
100°	0.1	0.4	5.0	11.4	14.2
102.5°	0.2	0.3	3.1	8.2	10.4
105°	0.2	0.3	1.9	5.6	7.5
107.5°	0.2	0.3	1.1	3.8	5.1
110°	0.3	0.3	0.6	2.3	3.4

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.3	0.3	0.4	1.5	2.2
115°	0.3	0.3	0.4	1.0	1.4
117.5°	0.0	0.0	0.0	0.0	0.0
120°	0.0	0.0	0.0	0.0	0.0
122.5°	0.0	0.0	0.0	0.0	0.0
125°	0.0	0.0	0.0	0.0	0.0
127.5°	0.0	0.0	0.0	0.0	0.0
130°	0.0	0.0	0.0	0.0	0.0
132.5°	0.0	0.0	0.0	0.0	0.0
135°	0.0	0.0	0.0	0.0	0.0
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)