

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: P517880

Luminaire Tested: HVL8-2-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: P517880
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-2-LD4-1HI-50-UNV-C-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: 2429.0 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: 0.67' x L: 2' x H: 0.17')
CIE Type: Direct

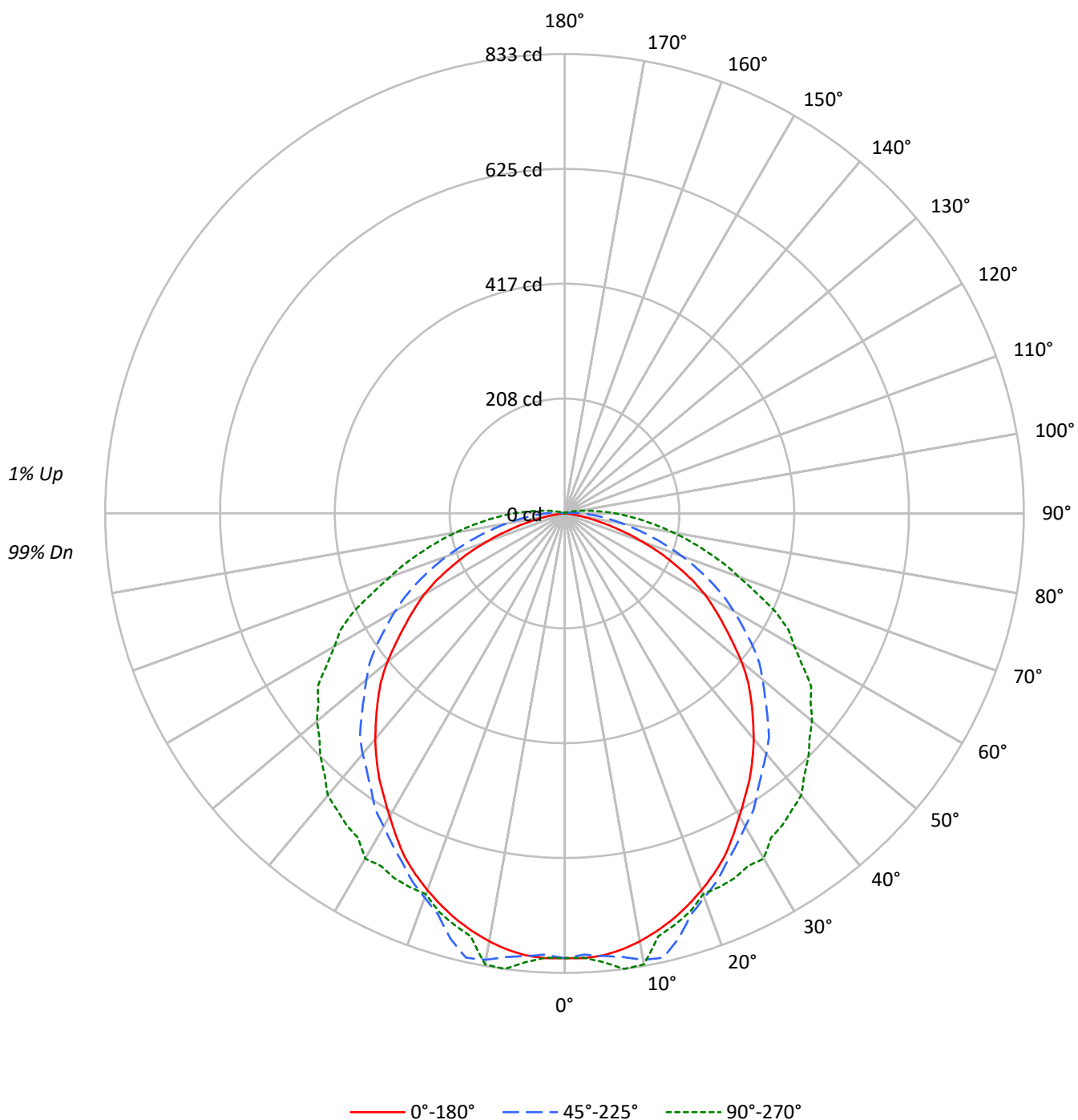
Input Watts (W): 21.5
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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				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°	6509	6509	6509
5°	6471	6396	6477
10°	6363	6466	6517
15°	6224	6275	6049
20°	6060	5864	5785
25°	5888	5595	5822
30°	5640	5378	5885
35°	5456	5170	5782
40°	5258	5010	5817
45°	5046	4809	5713
50°	4793	4597	5669
55°	4435	4372	5666
60°	4148	4069	5424
65°	3617	3711	5251
70°	2896	3255	4708
75°	2008	2706	4298
80°	1073	2156	3859
85°	361	1594	3400

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 45°

Luminance: 5713 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	77.5	3.2
10°-20°	220.7	9.1
20°-30°	328.4	13.5
30°-40°	394.7	16.2
40°-50°	415.4	17.1
50°-60°	385.5	15.9
60°-70°	304.8	12.5
70°-80°	186.2	7.7
80°-90°	81.1	3.3
90°-100°	25.3	1.0
100°-110°	5.7	0.2
110°-120°	2.3	0.1
120°-130°	1.3	0.1
130°-140°	0.3	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°	626.5	25.8
0°-40°	1021.2	42.0
0°-60°	1822.1	75.0
0°-90°	2394.2	98.6
90°-120°	33.2	1.4
90°-150°	34.8	1.4
90°-180°	35.0	1.4
0°-180°	2429.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	806	806	806	806	806	
5°	804	803	806	814	817	76
15°	761	790	798	772	772	214
25°	687	731	697	718	730	315
35°	586	602	611	667	689	366
45°	479	481	520	603	626	369
55°	353	358	415	506	546	317
65°	223	230	292	387	422	221
75°	84	112	163	251	266	92
85°	8	26	64	123	142	12
90°	0	8	33	78	92	0
95°	0	2	15	43	52	0
105°	0	1	3	8	12	0
115°	0	1	2	4	4	0
125°	0	0	1	2	3	0
135°	0	0	0	1	1	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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CATALOG NUMBER: HVL8-2-LD4-1HI-50-UNV-C-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	806.3	806.3	806.3	806.3	806.3
2.5°	807.3	805.1	800.7	805.0	806.1
5°	804.3	802.7	805.5	814.5	816.8
7.5°	797.6	803.8	811.2	827.6	832.9
10°	787.6	799.4	821.6	835.5	830.1
12.5°	775.4	795.5	825.2	797.9	785.3
15°	761.3	790.5	798.2	771.8	772.3
17.5°	744.7	786.4	762.6	761.9	757.2
20°	726.8	772.6	741.1	739.8	734.7
22.5°	707.6	754.4	722.0	719.4	733.2
25°	686.7	730.6	697.2	718.1	729.8
27.5°	660.6	699.4	676.5	706.1	720.7
30°	634.2	667.2	655.4	696.6	722.5
32.5°	609.4	633.5	637.9	693.0	697.2
35°	585.9	602.1	611.2	666.7	689.4
37.5°	560.1	564.5	588.5	655.7	677.5
40°	533.8	531.0	569.4	637.6	667.8
42.5°	505.6	504.6	549.2	628.6	643.7
45°	478.8	480.9	520.5	603.0	625.5
47.5°	451.4	454.1	493.2	574.9	602.8
50°	419.5	423.1	468.9	549.9	585.9
52.5°	385.0	391.9	445.3	526.3	562.6
55°	352.6	358.4	415.2	506.0	546.3
57.5°	323.1	326.5	384.2	480.6	511.0
60°	294.0	294.8	354.9	452.3	481.4
62.5°	260.7	262.1	324.9	419.0	457.9
65°	223.2	230.3	292.5	387.1	422.3
67.5°	188.2	200.5	259.5	357.9	376.3
70°	150.8	171.6	227.2	323.6	336.5
72.5°	116.5	140.9	194.0	285.1	303.4
75°	84.4	111.9	163.1	250.6	266.4
77.5°	56.8	84.8	134.2	212.5	233.4
80°	34.0	61.9	108.4	177.2	200.7
82.5°	17.4	41.6	84.1	148.6	169.7
85°	7.6	26.3	63.6	123.4	141.6
87.5°	2.1	14.9	46.8	99.7	115.1
90°	0.2	7.9	33.3	78.2	92.1
92.5°	0.2	3.8	23.5	59.1	69.8
95°	0.2	2.0	14.6	42.9	52.4
97.5°	0.2	1.1	8.9	30.4	38.4
100°	0.2	1.0	5.3	20.2	27.4
102.5°	0.2	1.1	3.6	12.8	17.9
105°	0.2	1.1	3.0	8.4	11.8
107.5°	0.3	1.1	2.6	6.2	8.2
110°	0.2	1.0	2.8	4.8	6.4

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.3	0.8	2.6	3.9	4.8
115°	0.2	0.7	2.3	3.8	3.9
117.5°	0.3	0.5	1.8	3.8	3.9
120°	0.3	0.3	1.5	3.6	4.1
122.5°	0.3	0.3	1.1	3.3	3.9
125°	0.2	0.3	1.0	2.5	3.4
127.5°	0.3	0.3	0.8	2.0	2.6
130°	0.3	0.3	0.7	1.5	2.0
132.5°	0.3	0.3	0.5	1.1	1.5
135°	0.3	0.3	0.3	0.8	1.1
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)