

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: P517872

Luminaire Tested: HVL8-2-LD4-1HI-35-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: P517872
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-2-LD4-1HI-35-UNV-C-EDD
Description: 2 FOOT, 8 INCH WIDE, HVL LED LUMINAIRE, WITH 3500K, 80 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

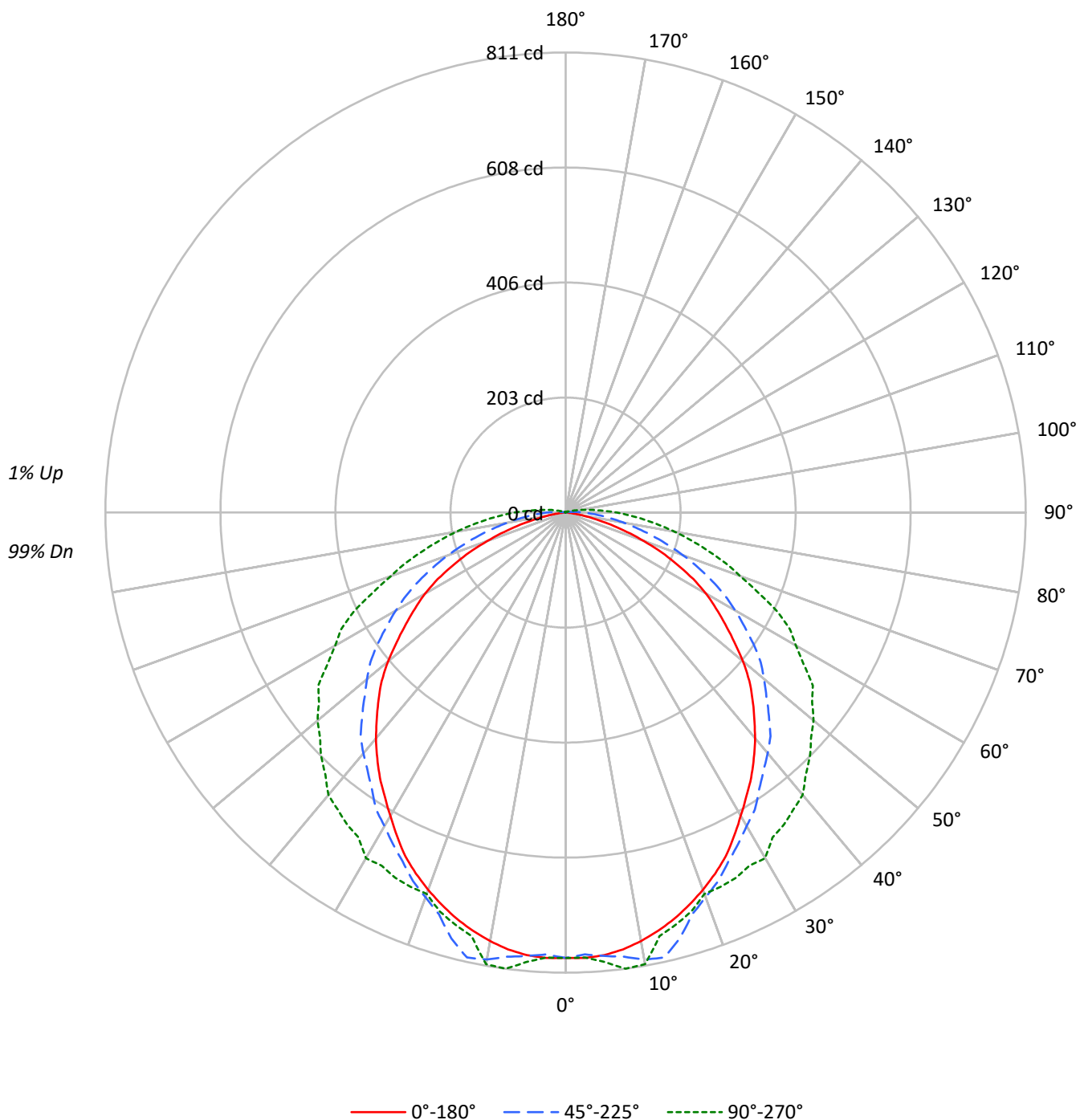
Lumens per Lamp: N/A
Luminaire Lumens: 2365.0 lumens
Efficiency: N/A
Efficacy: 110.0 lumens/watt
Spacing Criteria (0/90/45): 1.18 / 1.32 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.67' x L: 2' x H: 0.17')
CIE Type: Direct

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

TEST NUMBER: P517872
CATALOG NUMBER: HVL8-2-LD4-1HI-35-UNV-C-EDD

Luminous Intensity Polar Plot



TEST NUMBER: P517872

CATALOG NUMBER: HVL8-2-LD4-1HI-35-UNV-C-EDD

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	30	10	50	30	10
RCR																				
0	119	119	119	119	116	116	116	116	110	110	110	105	105	105	101	101	101			99
1	108	103	98	94	105	100	96	92	96	92	89	91	89	86	87	85	83			81
2	98	89	82	76	95	87	80	75	83	78	73	80	75	71	76	72	69			67
3	89	78	69	63	86	76	68	62	73	66	61	70	64	59	67	62	58			56
4	81	69	60	53	79	67	59	52	65	57	51	62	56	51	60	54	50			47
5	75	61	52	45	72	60	51	45	58	50	44	56	49	44	54	48	43			41
6	69	55	46	39	67	54	46	39	52	45	39	50	44	38	49	43	38			36
7	64	50	41	35	62	49	41	35	47	40	34	46	39	34	44	38	34			32
8	59	46	37	31	58	45	37	31	43	36	31	42	35	30	41	35	30			28
9	55	42	34	28	54	41	33	28	40	33	28	39	32	27	38	32	27			25
10	52	39	31	25	51	38	30	25	37	30	25	36	29	25	35	29	25			23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	6338	6338	6338
5°	6300	6227	6307
10°	6195	6295	6345
15°	6059	6110	5890
20°	5900	5709	5633
25°	5733	5448	5668
30°	5492	5236	5731
35°	5311	5034	5629
40°	5119	4878	5664
45°	4913	4682	5562
50°	4666	4477	5519
55°	4319	4257	5516
60°	4039	3962	5281
65°	3521	3613	5113
70°	2819	3169	4585
75°	1956	2635	4185
80°	1045	2099	3757
85°	351	1552	3311

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 45°

Luminance: 5562 cd/sqm

TEST NUMBER: P517872

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	75.5	3.2
10°-20°	214.9	9.1
20°-30°	319.7	13.5
30°-40°	384.3	16.2
40°-50°	404.5	17.1
50°-60°	375.3	15.9
60°-70°	296.8	12.5
70°-80°	181.3	7.7
80°-90°	79.0	3.3
90°-100°	24.6	1.0
100°-110°	5.5	0.2
110°-120°	2.2	0.1
120°-130°	1.2	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°	610.0	25.8
0°-40°	994.3	42.0
0°-60°	1774.1	75.0
0°-90°	2331.1	98.6
90°-120°	32.3	1.4
90°-150°	33.9	1.4
90°-180°	34.0	1.4
0°-180°	2365.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	785	785	785	785	785	
5°	783	782	784	793	795	74
15°	741	770	777	752	752	209
25°	669	711	679	699	710	307
35°	570	586	595	649	671	357
45°	466	468	507	587	609	359
55°	343	349	404	493	532	309
65°	217	224	285	377	411	215
75°	82	109	159	244	259	90
85°	7	26	62	120	138	11
90°	0	8	32	76	90	0
95°	0	2	14	42	51	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

TEST NUMBER: P517872

CATALOG NUMBER: HVL8-2-LD4-1HI-35-UNV-C-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	785.1	785.1	785.1	785.1	785.1
2.5°	786.0	783.9	779.6	783.8	784.9
5°	783.1	781.5	784.3	793.0	795.3
7.5°	776.6	782.7	789.8	805.8	811.0
10°	766.8	778.3	799.9	813.5	808.2
12.5°	755.0	774.5	803.4	776.9	764.6
15°	741.2	769.7	777.2	751.5	751.9
17.5°	725.1	765.7	742.5	741.9	737.2
20°	707.6	752.3	721.6	720.3	715.3
22.5°	688.9	734.5	703.0	700.5	713.9
25°	668.6	711.3	678.9	699.2	710.5
27.5°	643.2	680.9	658.7	687.5	701.7
30°	617.5	649.6	638.1	678.2	703.5
32.5°	593.3	616.8	621.1	674.7	678.9
35°	570.4	586.3	595.1	649.1	671.2
37.5°	545.3	549.6	573.0	638.4	659.7
40°	519.7	517.0	554.4	620.8	650.2
42.5°	492.2	491.3	534.8	612.0	626.7
45°	466.2	468.2	506.8	587.1	609.0
47.5°	439.5	442.2	480.2	559.7	586.9
50°	408.4	412.0	456.6	535.4	570.4
52.5°	374.9	381.6	433.5	512.4	547.7
55°	343.4	348.9	404.3	492.7	531.9
57.5°	314.6	317.9	374.1	467.9	497.5
60°	286.3	287.1	345.6	440.4	468.7
62.5°	253.8	255.2	316.3	408.0	445.9
65°	217.3	224.2	284.8	376.9	411.2
67.5°	183.3	195.3	252.7	348.5	366.4
70°	146.8	167.1	221.2	315.0	327.7
72.5°	113.4	137.2	188.9	277.6	295.4
75°	82.2	108.9	158.8	244.0	259.4
77.5°	55.3	82.5	130.7	206.9	227.2
80°	33.1	60.3	105.5	172.6	195.4
82.5°	17.0	40.5	81.9	144.7	165.2
85°	7.4	25.6	61.9	120.1	137.9
87.5°	2.1	14.6	45.6	97.1	112.1
90°	0.2	7.7	32.5	76.1	89.7
92.5°	0.2	3.7	22.9	57.6	68.0
95°	0.2	1.9	14.2	41.7	51.0
97.5°	0.2	1.1	8.6	29.6	37.4
100°	0.2	1.0	5.1	19.7	26.7
102.5°	0.2	1.1	3.5	12.5	17.4
105°	0.2	1.1	2.9	8.2	11.5
107.5°	0.3	1.1	2.6	6.1	8.0
110°	0.2	1.0	2.7	4.6	6.2

TEST NUMBER: P517872

CATALOG NUMBER: HVL8-2-LD4-1HI-35-UNV-C-EDD

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.3	0.8	2.6	3.8	4.6
115°	0.2	0.6	2.2	3.7	3.8
117.5°	0.3	0.5	1.8	3.7	3.8
120°	0.3	0.3	1.4	3.5	4.0
122.5°	0.3	0.3	1.1	3.2	3.8
125°	0.2	0.3	1.0	2.4	3.4
127.5°	0.3	0.3	0.8	1.9	2.6
130°	0.3	0.3	0.6	1.4	1.9
132.5°	0.3	0.3	0.5	1.1	1.4
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)