

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: P517788

Luminaire Tested: HVL8-1-LD4-2LO-30-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: P517788
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-1-LD4-2LO-30-UNV-C-EDD
Description: 1 FOOT, 8 INCH WIDE, HVL LED LUMINAIRE, WITH 3000K, 80 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1291.0 lumens
Efficiency: N/A
Efficacy: 112.3 lumens/watt
Spacing Criteria (0/90/45): 1.18 / 1.32 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.67' x L: 1' x H: 0.17')
CIE Type: Direct

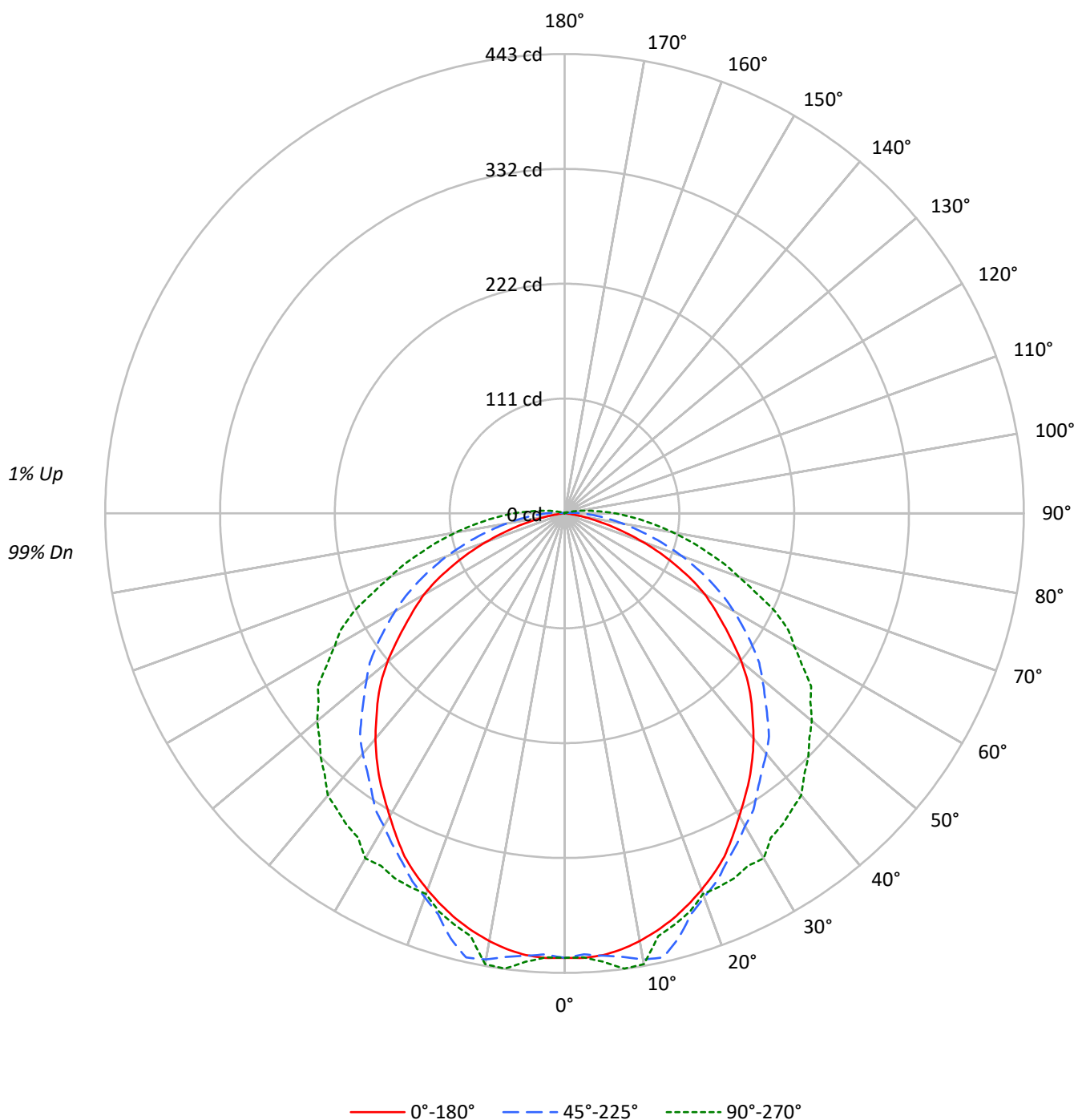
Input Watts (W): 11.5
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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

TEST NUMBER: P517788

CATALOG NUMBER: HVL8-1-LD4-2LO-30-UNV-C-EDD

Luminous Intensity Polar Plot



TEST NUMBER: P517788

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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	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	40	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°	6919	6919	6919
5°	6829	6764	6885
10°	6667	6806	6928
15°	6474	6573	6431
20°	6258	6112	6150
25°	6033	5805	6189
30°	5733	5549	6256
35°	5496	5307	6146
40°	5246	5115	6185
45°	4981	4878	6072
50°	4673	4633	6026
55°	4261	4372	6024
60°	3916	4032	5766
65°	3338	3640	5581
70°	2593	3149	5006
75°	1727	2576	4569
80°	865	2005	4103
85°	255	1433	3616

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 45°

Luminance: 6072 cd/sqm

TEST NUMBER: P517788

CATALOG NUMBER: HVL8-1-LD4-2LO-30-UNV-C-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	41.2	3.2
10°-20°	117.3	9.1
20°-30°	174.5	13.5
30°-40°	209.8	16.2
40°-50°	220.8	17.1
50°-60°	204.9	15.9
60°-70°	162.0	12.5
70°-80°	98.9	7.7
80°-90°	43.1	3.3
90°-100°	13.4	1.0
100°-110°	3.0	0.2
110°-120°	1.2	0.1
120°-130°	0.7	0.1
130°-140°	0.2	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°	333.0	25.8
0°-40°	542.8	42.0
0°-60°	968.5	75.0
0°-90°	1272.5	98.6
90°-120°	17.6	1.4
90°-150°	18.5	1.4
90°-180°	19.0	1.5
0°-180°	1291.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	428	428	428	428	428	
5°	428	427	428	433	434	41
15°	405	420	424	410	410	114
25°	365	388	371	382	388	168
35°	311	320	325	354	366	195
45°	254	256	277	320	332	196
55°	187	190	221	269	290	168
65°	119	122	156	206	224	117
75°	45	59	87	133	142	49
85°	4	14	34	66	75	6
90°	0	4	18	42	49	0
95°	0	1	8	23	28	0
105°	0	1	2	4	6	0
115°	0	0	1	2	2	0
125°	0	0	0	1	2	0
135°	0	0	0	0	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: P517788

CATALOG NUMBER: HVL8-1-LD4-2LO-30-UNV-C-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	428.5	428.5	428.5	428.5	428.5
2.5°	429.1	427.9	425.6	427.8	428.5
5°	427.5	426.6	428.1	432.9	434.1
7.5°	423.9	427.2	431.2	439.9	442.7
10°	418.6	424.9	436.7	444.1	441.2
12.5°	412.1	422.8	438.6	424.1	417.4
15°	404.6	420.2	424.3	410.2	410.5
17.5°	395.8	418.0	405.3	405.0	402.4
20°	386.3	410.6	393.9	393.2	390.5
22.5°	376.1	401.0	383.8	382.4	389.7
25°	365.0	388.3	370.6	381.7	387.9
27.5°	351.1	371.7	359.6	375.3	383.1
30°	337.1	354.6	348.3	370.2	384.0
32.5°	323.9	336.7	339.1	368.3	370.6
35°	311.4	320.0	324.8	354.3	366.4
37.5°	297.7	300.0	312.8	348.5	360.1
40°	283.7	282.2	302.7	338.9	355.0
42.5°	268.7	268.2	291.9	334.1	342.1
45°	254.5	255.6	276.6	320.5	332.4
47.5°	239.9	241.4	262.2	305.5	320.4
50°	223.0	224.9	249.2	292.3	311.4
52.5°	204.6	208.3	236.7	279.7	299.0
55°	187.4	190.5	220.7	269.0	290.4
57.5°	171.7	173.5	204.2	255.4	271.6
60°	156.3	156.7	188.6	240.4	255.9
62.5°	138.5	139.3	172.7	222.7	243.4
65°	118.6	122.4	155.5	205.8	224.4
67.5°	100.0	106.6	137.9	190.2	200.0
70°	80.1	91.2	120.7	172.0	178.9
72.5°	61.9	74.9	103.1	151.5	161.2
75°	44.9	59.4	86.7	133.2	141.6
77.5°	30.2	45.0	71.3	113.0	124.0
80°	18.1	32.9	57.6	94.2	106.7
82.5°	9.3	22.1	44.7	79.0	90.2
85°	4.0	14.0	33.8	65.6	75.3
87.5°	1.1	7.9	24.9	53.0	61.2
90°	0.1	4.2	17.7	41.6	49.0
92.5°	0.1	2.0	12.5	31.4	37.1
95°	0.1	1.0	7.8	22.8	27.8
97.5°	0.1	0.6	4.7	16.1	20.4
100°	0.1	0.5	2.8	10.7	14.6
102.5°	0.1	0.6	1.9	6.8	9.5
105°	0.1	0.6	1.6	4.5	6.3
107.5°	0.2	0.6	1.4	3.3	4.4
110°	0.1	0.5	1.5	2.5	3.4

TEST NUMBER: P517788

CATALOG NUMBER: HVL8-1-LD4-2LO-30-UNV-C-EDD

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.2	0.4	1.4	2.1	2.5
115°	0.1	0.3	1.2	2.0	2.1
117.5°	0.2	0.3	1.0	2.0	2.1
120°	0.2	0.2	0.8	1.9	2.2
122.5°	0.2	0.2	0.6	1.7	2.1
125°	0.1	0.2	0.5	1.3	1.8
127.5°	0.2	0.2	0.4	1.0	1.4
130°	0.2	0.2	0.3	0.8	1.0
132.5°	0.2	0.2	0.3	0.6	0.8
135°	0.2	0.2	0.2	0.4	0.6
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)