

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: P517799

Luminaire Tested: HVL8-1-LD4-2LO-50-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: P517799
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-1-LD4-2LO-50-UNV-C-EDD-90
Description: 1 FOOT, 8 INCH WIDE, HVL LED LUMINAIRE, WITH 5000K, 90 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1210.0 lumens
Efficiency: N/A
Efficacy: 105.2 lumens/watt
Spacing Criteria (0/90/45): 1.18 / 1.32 / 1.36
Luminous Opening: Rectangular w/ Sides (W: 0.67' x L: 1' x H: 0.17')
CIE Type: Direct

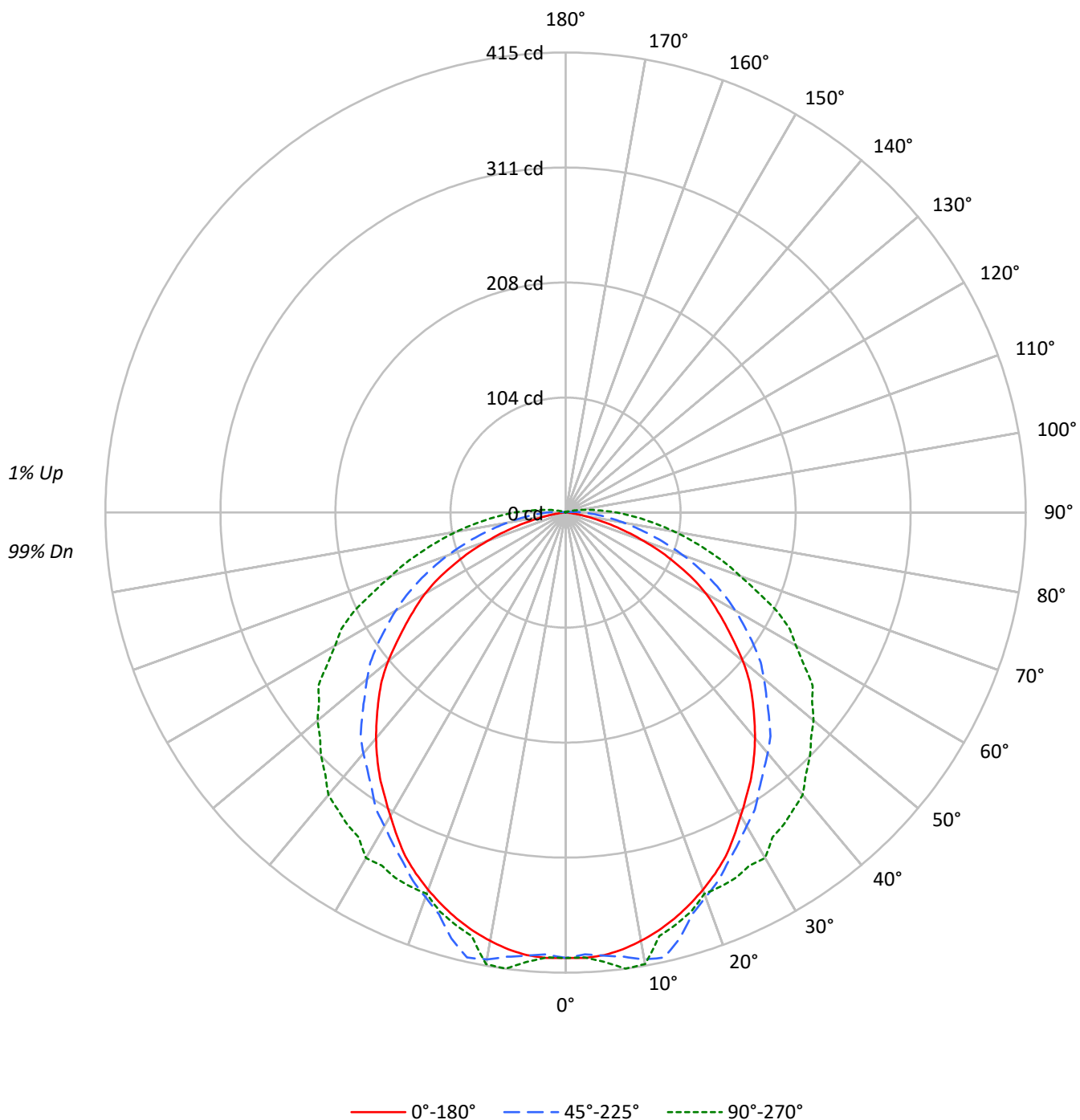
Input Watts (W): 11.5
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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: P517799

CATALOG NUMBER: HVL8-1-LD4-2LO-50-UNV-C-EDD-90

Luminous Intensity Polar Plot



TEST NUMBER: P517799

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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°	6486	6486	6486
5°	6401	6339	6454
10°	6248	6379	6493
15°	6067	6160	6027
20°	5866	5729	5764
25°	5655	5440	5800
30°	5372	5202	5863
35°	5152	4975	5760
40°	4917	4794	5796
45°	4668	4573	5692
50°	4380	4343	5649
55°	3995	4097	5644
60°	3671	3780	5403
65°	3130	3411	5232
70°	2432	2953	4690
75°	1619	2412	4282
80°	808	1880	3845
85°	242	1344	3385

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 45°

Luminance: 5692 cd/sqm

TEST NUMBER: P517799

CATALOG NUMBER: HVL8-1-LD4-2LO-50-UNV-C-EDD-90

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	38.6	3.2
10°-20°	109.9	9.1
20°-30°	163.6	13.5
30°-40°	196.6	16.2
40°-50°	206.9	17.1
50°-60°	192.0	15.9
60°-70°	151.8	12.5
70°-80°	92.7	7.7
80°-90°	40.4	3.3
90°-100°	12.6	1.0
100°-110°	2.8	0.2
110°-120°	1.1	0.1
120°-130°	0.6	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°	312.1	25.8
0°-40°	508.7	42.0
0°-60°	907.7	75.0
0°-90°	1192.6	98.6
90°-120°	16.6	1.4
90°-150°	17.4	1.4
90°-180°	17.0	1.4
0°-180°	1210.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	402	402	402	402	402	
5°	401	400	401	406	407	38
15°	379	394	398	384	385	107
25°	342	364	347	358	364	157
35°	292	300	304	332	343	182
45°	238	240	259	300	312	184
55°	176	178	207	252	272	158
65°	111	115	146	193	210	110
75°	42	56	81	125	133	46
85°	4	13	32	61	70	6
90°	0	4	17	39	46	0
95°	0	1	7	21	26	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: P517799

CATALOG NUMBER: HVL8-1-LD4-2LO-50-UNV-C-EDD-90

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	401.7	401.7	401.7	401.7	401.7
2.5°	402.1	401.1	398.9	401.0	401.6
5°	400.7	399.9	401.2	405.7	406.9
7.5°	397.3	400.4	404.1	412.3	414.9
10°	392.3	398.2	409.3	416.2	413.5
12.5°	386.3	396.3	411.1	397.5	391.2
15°	379.2	393.8	397.6	384.5	384.7
17.5°	371.0	391.8	379.9	379.6	377.2
20°	362.1	384.9	369.2	368.5	366.0
22.5°	352.5	375.8	359.7	358.4	365.2
25°	342.1	363.9	347.3	357.7	363.5
27.5°	329.1	348.4	337.0	351.7	359.0
30°	315.9	332.4	326.5	347.0	359.9
32.5°	303.6	315.6	317.8	345.2	347.3
35°	291.9	300.0	304.5	332.1	343.4
37.5°	279.0	281.2	293.2	326.6	337.5
40°	265.9	264.5	283.7	317.6	332.7
42.5°	251.8	251.4	273.6	313.1	320.7
45°	238.5	239.6	259.3	300.4	311.6
47.5°	224.8	226.2	245.7	286.4	300.3
50°	209.0	210.8	233.6	273.9	291.9
52.5°	191.8	195.2	221.8	262.2	280.2
55°	175.7	178.5	206.8	252.1	272.1
57.5°	160.9	162.7	191.4	239.4	254.5
60°	146.5	146.9	176.8	225.3	239.8
62.5°	129.8	130.6	161.8	208.7	228.1
65°	111.2	114.7	145.7	192.8	210.4
67.5°	93.8	99.9	129.3	178.3	187.4
70°	75.1	85.5	113.2	161.2	167.6
72.5°	58.0	70.2	96.6	142.0	151.1
75°	42.1	55.7	81.2	124.9	132.7
77.5°	28.3	42.2	66.8	105.9	116.3
80°	16.9	30.8	54.0	88.3	100.0
82.5°	8.7	20.7	41.9	74.0	84.5
85°	3.8	13.1	31.7	61.4	70.5
87.5°	1.1	7.4	23.3	49.7	57.4
90°	0.1	3.9	16.6	38.9	45.9
92.5°	0.1	1.9	11.7	29.5	34.8
95°	0.1	1.0	7.3	21.4	26.1
97.5°	0.1	0.6	4.4	15.1	19.1
100°	0.1	0.5	2.6	10.1	13.7
102.5°	0.1	0.6	1.8	6.4	8.9
105°	0.1	0.6	1.5	4.2	5.9
107.5°	0.2	0.6	1.3	3.1	4.1
110°	0.1	0.5	1.4	2.4	3.2

TEST NUMBER: P517799

CATALOG NUMBER: HVL8-1-LD4-2LO-50-UNV-C-EDD-90

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.2	0.4	1.3	2.0	2.4
115°	0.1	0.3	1.1	1.9	2.0
117.5°	0.2	0.2	0.9	1.9	2.0
120°	0.2	0.2	0.7	1.8	2.0
122.5°	0.2	0.2	0.6	1.6	2.0
125°	0.1	0.2	0.5	1.2	1.7
127.5°	0.2	0.2	0.4	1.0	1.3
130°	0.2	0.2	0.3	0.7	1.0
132.5°	0.2	0.2	0.2	0.6	0.7
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)