

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: P517736

Luminaire Tested: HVL8-1-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: P517736
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-1-LD4-1HI-50-UNV-C-EDD
Description: 1 FOOT, 8 INCH WIDE, HVL LED LUMINAIRE, WITH 5000K, 80 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1215.0 lumens
Efficiency: N/A
Efficacy: 113.6 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

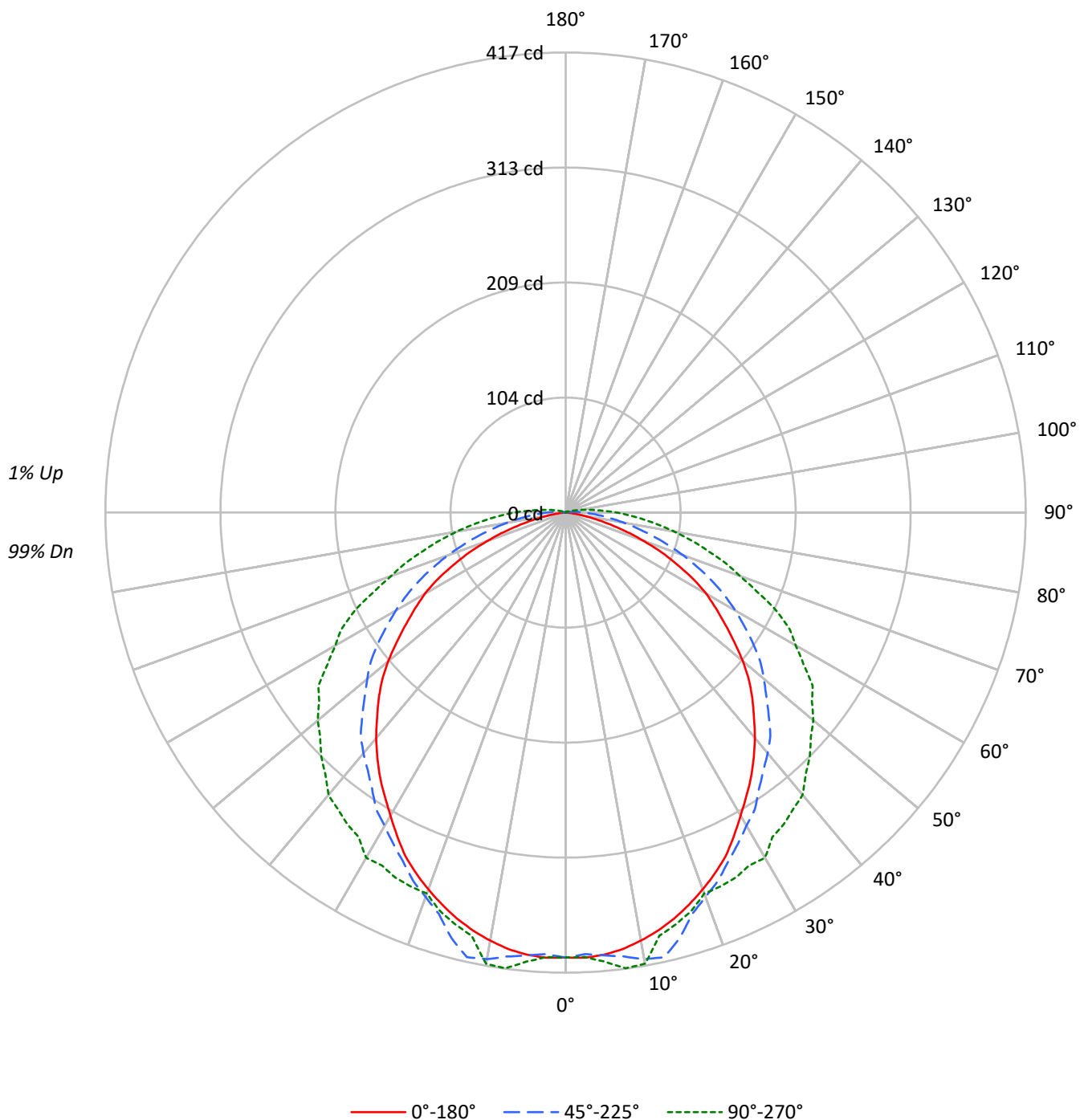
Input Watts (W): 10.7
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	6512	6512	6512
5°	6427	6366	6481
10°	6274	6405	6520
15°	6093	6186	6052
20°	5888	5752	5788
25°	5678	5463	5823
30°	5395	5223	5888
35°	5173	4995	5784
40°	4937	4813	5821
45°	4687	4593	5716
50°	4396	4361	5672
55°	4011	4115	5669
60°	3686	3795	5426
65°	3144	3425	5252
70°	2441	2963	4710
75°	1623	2424	4301
80°	813	1887	3861
85°	242	1349	3400

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 45°

Luminance: 5716 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	38.8	3.2
10°-20°	110.4	9.1
20°-30°	164.2	13.5
30°-40°	197.4	16.2
40°-50°	207.8	17.1
50°-60°	192.8	15.9
60°-70°	152.5	12.5
70°-80°	93.1	7.7
80°-90°	40.6	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°	313.4	25.8
0°-40°	510.8	42.0
0°-60°	911.4	75.0
0°-90°	1197.6	98.6
90°-120°	16.6	1.4
90°-150°	17.4	1.4
90°-180°	17.0	1.4
0°-180°	1215.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	403	403	403	403	403	
5°	402	402	403	407	409	38
15°	381	395	399	386	386	107
25°	344	365	349	359	365	158
35°	293	301	306	334	345	183
45°	240	241	260	302	313	185
55°	176	179	208	253	273	158
65°	112	115	146	194	211	111
75°	42	56	82	125	133	46
85°	4	13	32	62	71	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

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	403.3	403.3	403.3	403.3	403.3
2.5°	403.8	402.7	400.5	402.7	403.2
5°	402.3	401.5	402.9	407.4	408.6
7.5°	399.0	402.1	405.8	414.0	416.6
10°	393.9	399.9	411.0	417.9	415.2
12.5°	387.9	397.9	412.8	399.1	392.8
15°	380.8	395.4	399.3	386.1	386.3
17.5°	372.5	393.4	381.5	381.1	378.7
20°	363.5	386.5	370.7	370.0	367.5
22.5°	353.9	377.4	361.2	359.9	366.8
25°	343.5	365.4	348.8	359.2	365.0
27.5°	330.4	349.8	338.4	353.2	360.5
30°	317.2	333.7	327.8	348.4	361.4
32.5°	304.8	316.9	319.1	346.6	348.8
35°	293.1	301.2	305.7	333.5	344.8
37.5°	280.2	282.4	294.4	328.0	338.9
40°	267.0	265.6	284.8	318.9	334.1
42.5°	252.9	252.4	274.7	314.4	322.0
45°	239.5	240.6	260.4	301.6	312.9
47.5°	225.8	227.2	246.7	287.6	301.5
50°	209.8	211.6	234.6	275.1	293.1
52.5°	192.6	196.0	222.7	263.2	281.4
55°	176.4	179.3	207.7	253.1	273.3
57.5°	161.6	163.3	192.2	240.4	255.6
60°	147.1	147.5	177.5	226.3	240.8
62.5°	130.4	131.1	162.5	209.6	229.1
65°	111.7	115.2	146.3	193.6	211.2
67.5°	94.2	100.3	129.8	179.0	188.2
70°	75.4	85.9	113.6	161.9	168.3
72.5°	58.3	70.5	97.0	142.6	151.7
75°	42.2	55.9	81.6	125.4	133.3
77.5°	28.4	42.4	67.1	106.3	116.7
80°	17.0	31.0	54.2	88.6	100.4
82.5°	8.7	20.8	42.1	74.4	84.9
85°	3.8	13.1	31.8	61.7	70.8
87.5°	1.1	7.5	23.4	49.9	57.6
90°	0.1	3.9	16.7	39.1	46.1
92.5°	0.1	1.9	11.7	29.6	34.9
95°	0.1	1.0	7.3	21.4	26.2
97.5°	0.1	0.6	4.4	15.2	19.2
100°	0.1	0.5	2.6	10.1	13.7
102.5°	0.1	0.6	1.8	6.4	9.0
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

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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	1.2	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	2.1
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)