

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: P517737

Luminaire Tested: HVL8-1-LD4-1HI-50-UNV-O-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: P517737
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-O-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: 1100.0 lumens
Efficiency: N/A
Efficacy: 102.8 lumens/watt
Spacing Criteria (0/90/45): 1.25 / 1.27 / 1.38
Luminous Opening: Rectangular w/ Sides (W: 0.67' x L: 1' x H: 0.17')
CIE Type: Direct

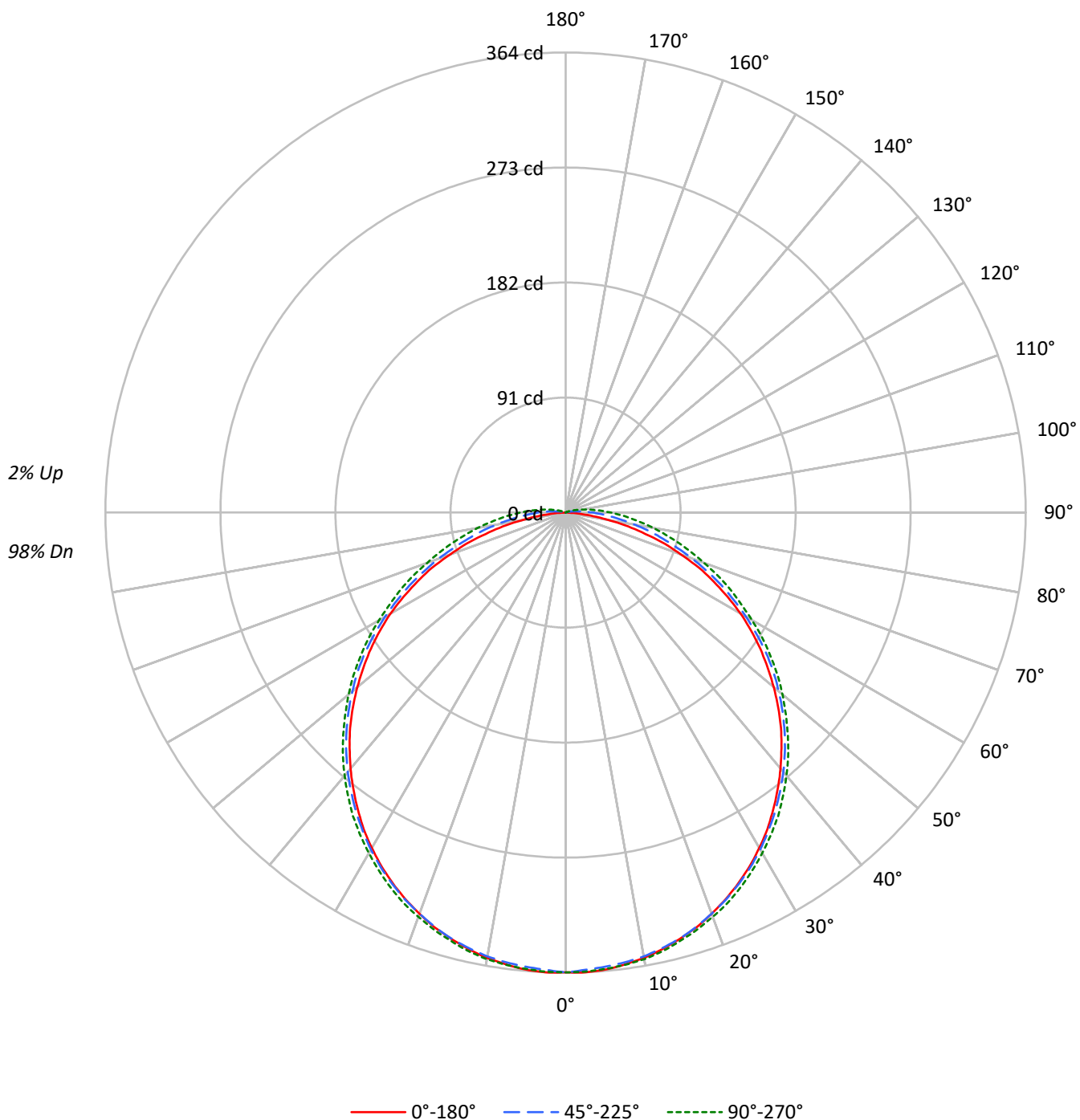
Input Watts (W): 10.7
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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					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			98
1	108	102	98	94	105	100	96	92	95	92	89	91	88	86	87	85	83			81
2	98	89	82	76	95	87	80	75	83	77	73	79	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	52	62	56	51	60	54	50			47
5	75	61	52	45	72	60	52	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°	5874	5874	5874
5°	5799	5699	5748
10°	5699	5556	5634
15°	5587	5405	5496
20°	5474	5242	5361
25°	5349	5078	5224
30°	5213	4906	5070
35°	5057	4720	4916
40°	4893	4529	4737
45°	4717	4323	4543
50°	4505	4092	4335
55°	4277	3839	4105
60°	4009	3528	3837
65°	3636	3184	3574
70°	3150	2789	3263
75°	2515	2365	2985
80°	1687	1946	2726
85°	721	1522	2482

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 4717 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	34.4	3.1
10°-20°	98.8	9.0
20°-30°	149.8	13.6
30°-40°	181.2	16.5
40°-50°	189.1	17.2
50°-60°	172.9	15.7
60°-70°	134.7	12.2
70°-80°	84.3	7.7
80°-90°	38.3	3.5
90°-100°	12.8	1.2
100°-110°	3.2	0.3
110°-120°	0.5	0.0
120°-130°	0.0	0.0
130°-140°	0.0	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°	283.0	25.7
0°-40°	464.2	42.2
0°-60°	826.1	75.1
0°-90°	1083.5	98.5
90°-120°	16.6	1.5
90°-150°	16.6	1.5
90°-180°	17.0	1.5
0°-180°	1100.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	364	364	364	364	364	
5°	363	362	361	362	362	34
15°	349	350	349	351	351	99
25°	324	324	324	327	327	149
35°	286	288	289	292	293	179
45°	241	243	245	248	249	186
55°	188	190	194	197	198	168
65°	129	132	136	141	144	128
75°	65	70	80	89	92	70
85°	11	21	36	48	52	14
90°	0	8	21	32	36	0
95°	0	2	11	20	23	0
105°	0	0	2	5	7	0
115°	0	0	0	1	1	0
125°	0	0	0	0	0	0
135°	0	0	0	0	0	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°	363.8	363.8	363.8	363.8	363.8
2.5°	364.2	363.7	362.1	363.7	363.6
5°	363.0	362.4	360.7	362.4	362.4
7.5°	360.6	360.4	358.9	360.9	360.9
10°	357.8	357.7	356.5	358.7	358.8
12.5°	353.9	354.2	353.1	355.2	355.4
15°	349.2	349.8	348.9	350.9	350.8
17.5°	344.2	344.5	343.8	346.1	346.0
20°	337.9	338.3	337.8	340.1	340.4
22.5°	331.0	331.6	331.5	333.9	334.6
25°	323.6	323.8	324.2	326.9	327.4
27.5°	315.4	315.9	316.5	319.0	319.5
30°	306.5	307.2	307.9	310.5	311.2
32.5°	297.1	297.8	298.6	302.0	302.3
35°	286.5	287.7	288.9	291.9	293.1
37.5°	275.8	277.4	278.6	281.7	282.6
40°	264.6	266.2	268.0	271.3	271.9
42.5°	252.8	254.7	256.9	259.8	260.8
45°	241.0	243.1	245.1	247.5	248.7
47.5°	228.2	230.4	232.8	235.5	236.3
50°	215.0	217.5	220.1	222.6	224.0
52.5°	201.5	204.5	207.4	210.1	211.4
55°	188.1	190.3	193.8	196.7	197.9
57.5°	174.2	176.1	179.2	183.9	184.6
60°	160.0	161.8	165.0	168.8	170.3
62.5°	144.4	146.7	150.2	155.0	156.3
65°	129.2	131.5	136.0	141.4	143.7
67.5°	114.6	115.4	121.2	126.8	130.4
70°	97.3	100.2	106.9	113.9	116.6
72.5°	82.3	85.3	92.7	100.9	104.3
75°	65.4	69.5	79.6	89.1	92.5
77.5°	50.6	55.1	67.6	77.2	81.0
80°	35.3	42.3	55.9	66.7	70.9
82.5°	22.2	30.8	45.4	56.7	60.4
85°	11.3	20.9	35.9	47.5	51.7
87.5°	3.0	13.6	28.0	39.0	43.3
90°	0.1	7.8	21.2	31.8	35.7
92.5°	0.1	4.4	15.8	25.3	29.2
95°	0.1	2.1	11.0	19.9	23.0
97.5°	0.1	0.9	7.5	15.0	18.1
100°	0.1	0.4	4.8	10.9	13.6
102.5°	0.2	0.3	3.0	7.8	9.9
105°	0.2	0.3	1.8	5.3	7.1
107.5°	0.2	0.3	1.0	3.6	4.9
110°	0.3	0.3	0.6	2.2	3.3

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.3	0.3	0.3	1.5	2.1
115°	0.3	0.3	0.3	0.9	1.4
117.5°	0.0	0.0	0.0	0.0	0.0
120°	0.0	0.0	0.0	0.0	0.0
122.5°	0.0	0.0	0.0	0.0	0.0
125°	0.0	0.0	0.0	0.0	0.0
127.5°	0.0	0.0	0.0	0.0	0.0
130°	0.0	0.0	0.0	0.0	0.0
132.5°	0.0	0.0	0.0	0.0	0.0
135°	0.0	0.0	0.0	0.0	0.0
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)