

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: P517882

Luminaire Tested: HVL8-2-LD4-1HI-50-UNV-O-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: P517882
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-2-LD4-1HI-50-UNV-O-EDD
Description: 2 FOOT, 8 INCH WIDE, HVL LED LUMINAIRE, WITH 5000K, 80 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1914.0 lumens
Efficiency: N/A
Efficacy: 89.0 lumens/watt
Spacing Criteria (0/90/45): 1.25 / 1.27 / 1.38
Luminous Opening: Rectangular w/ Sides (W: 0.67' x L: 2' x H: 0.17')
CIE Type: Direct

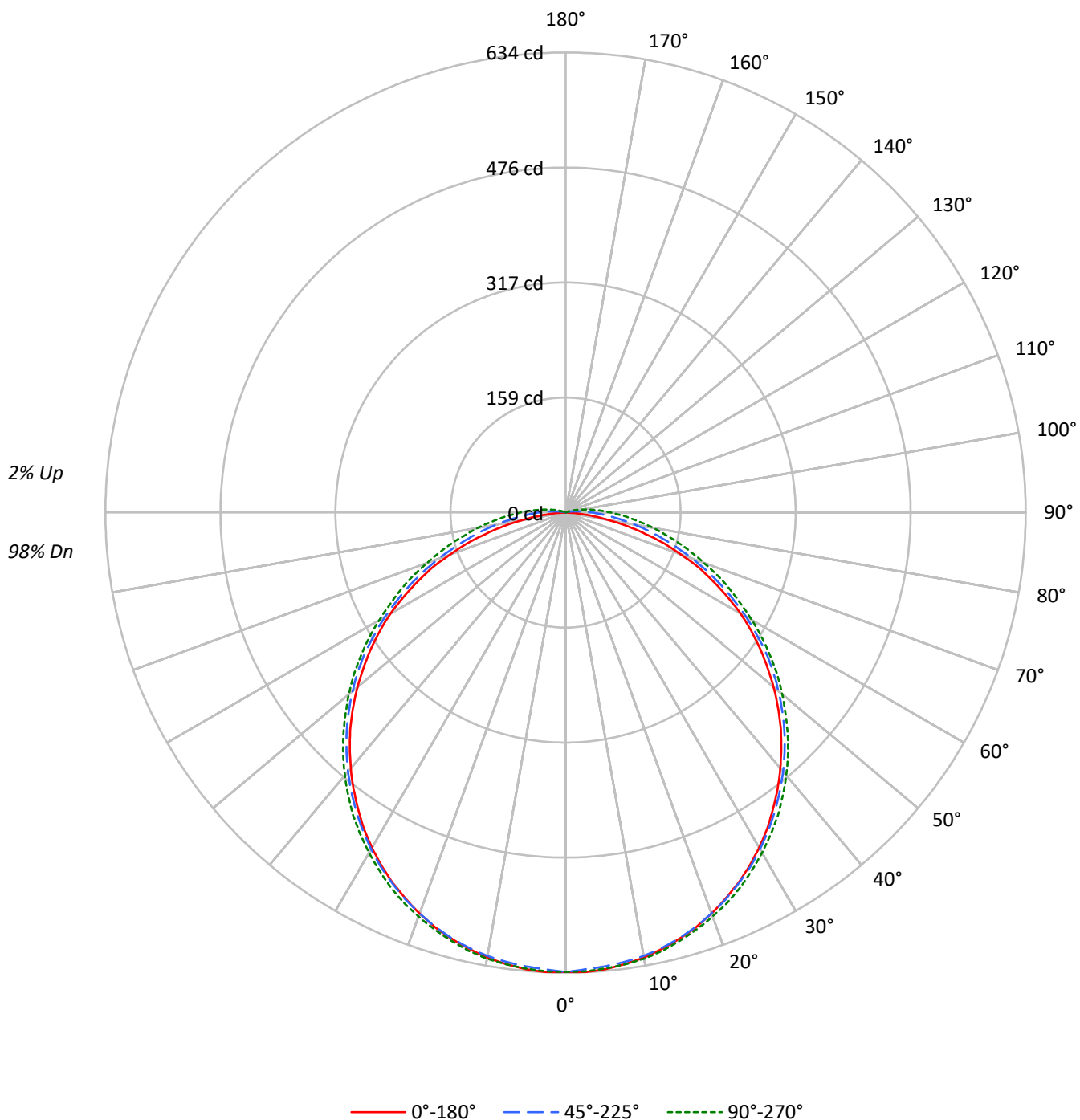
Input Watts (W): 21.5
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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

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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°	5110	5110	5110
5°	5082	4984	5001
10°	5030	4883	4901
15°	4968	4772	4781
20°	4903	4651	4664
25°	4827	4527	4545
30°	4743	4395	4410
35°	4641	4253	4276
40°	4535	4103	4121
45°	4419	3940	3953
50°	4274	3754	3772
55°	4117	3552	3572
60°	3929	3291	3339
65°	3645	3003	3109
70°	3250	2666	2840
75°	2710	2298	2596
80°	1941	1936	2372
85°	934	1567	2161

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 4419 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	59.9	3.1
10°-20°	171.8	9.0
20°-30°	260.7	13.6
30°-40°	315.3	16.5
40°-50°	328.9	17.2
50°-60°	300.8	15.7
60°-70°	234.5	12.3
70°-80°	146.7	7.7
80°-90°	66.6	3.5
90°-100°	22.3	1.2
100°-110°	5.6	0.3
110°-120°	0.9	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°	492.5	25.7
0°-40°	807.7	42.2
0°-60°	1437.4	75.1
0°-90°	1885.2	98.5
90°-120°	28.8	1.5
90°-150°	28.8	1.5
90°-180°	29.0	1.5
0°-180°	1914.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	633	633	633	633	633	
5°	632	630	628	631	631	60
15°	608	609	607	610	610	172
25°	563	564	564	569	570	259
35°	498	501	503	508	510	312
45°	419	423	426	431	433	323
55°	327	331	337	342	344	292
65°	225	229	237	246	250	223
75°	114	121	138	155	161	121
85°	20	36	62	83	90	25
90°	0	14	37	55	62	1
95°	0	4	19	35	40	0
105°	0	0	3	9	12	0
115°	0	0	1	2	2	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

TEST NUMBER: P517882

CATALOG NUMBER: HVL8-2-LD4-1HI-50-UNV-O-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	633.0	633.0	633.0	633.0	633.0
2.5°	633.8	632.9	630.1	632.9	632.7
5°	631.7	630.5	627.7	630.6	630.6
7.5°	627.5	627.1	624.5	628.0	628.0
10°	622.6	622.4	620.4	624.1	624.2
12.5°	615.7	616.3	614.4	618.0	618.4
15°	607.7	608.7	607.1	610.5	610.4
17.5°	598.9	599.5	598.3	602.1	602.0
20°	588.0	588.7	587.8	591.8	592.3
22.5°	575.9	576.9	576.8	581.0	582.1
25°	563.0	563.5	564.1	568.9	569.8
27.5°	548.9	549.6	550.7	555.0	555.9
30°	533.3	534.5	535.7	540.2	541.4
32.5°	516.9	518.1	519.6	525.4	526.0
35°	498.4	500.7	502.8	507.8	509.9
37.5°	479.9	482.8	484.7	490.1	491.7
40°	460.4	463.2	466.3	472.0	473.1
42.5°	439.9	443.2	446.9	452.0	453.8
45°	419.3	423.1	426.5	430.7	432.8
47.5°	397.1	400.8	405.0	409.8	411.1
50°	374.1	378.4	382.9	387.4	389.8
52.5°	350.5	355.8	360.8	365.6	367.9
55°	327.3	331.1	337.3	342.2	344.4
57.5°	303.1	306.4	311.9	320.0	321.1
60°	278.5	281.4	287.1	293.7	296.4
62.5°	251.3	255.3	261.3	269.7	272.0
65°	224.9	228.8	236.7	246.1	250.0
67.5°	199.4	200.7	210.9	220.7	227.0
70°	169.2	174.3	186.1	198.2	203.0
72.5°	143.3	148.3	161.3	175.5	181.5
75°	113.9	120.9	138.5	155.1	160.9
77.5°	88.0	95.8	117.6	134.3	141.0
80°	61.5	73.6	97.3	116.1	123.4
82.5°	38.7	53.6	78.9	98.6	105.1
85°	19.7	36.4	62.5	82.7	90.0
87.5°	5.2	23.6	48.6	67.9	75.4
90°	0.1	13.6	36.9	55.4	62.1
92.5°	0.1	7.6	27.5	44.0	50.9
95°	0.1	3.6	19.1	34.6	40.0
97.5°	0.1	1.5	13.1	26.1	31.5
100°	0.1	0.7	8.4	19.0	23.6
102.5°	0.3	0.4	5.2	13.6	17.3
105°	0.3	0.4	3.1	9.3	12.4
107.5°	0.3	0.4	1.8	6.3	8.5
110°	0.4	0.4	1.0	3.9	5.7

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.4	0.4	0.6	2.5	3.7
115°	0.4	0.4	0.6	1.6	2.4
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)