

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: P517885

Luminaire Tested: HVL8-2-LD4-1LO-30-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: P517885
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-2-LD4-1LO-30-UNV-O-EDD-90
Description: 2 FOOT, 8 INCH WIDE, HVL LED LUMINAIRE, WITH 3000K, 90 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1231.0 lumens
Efficiency: N/A
Efficacy: 107.0 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

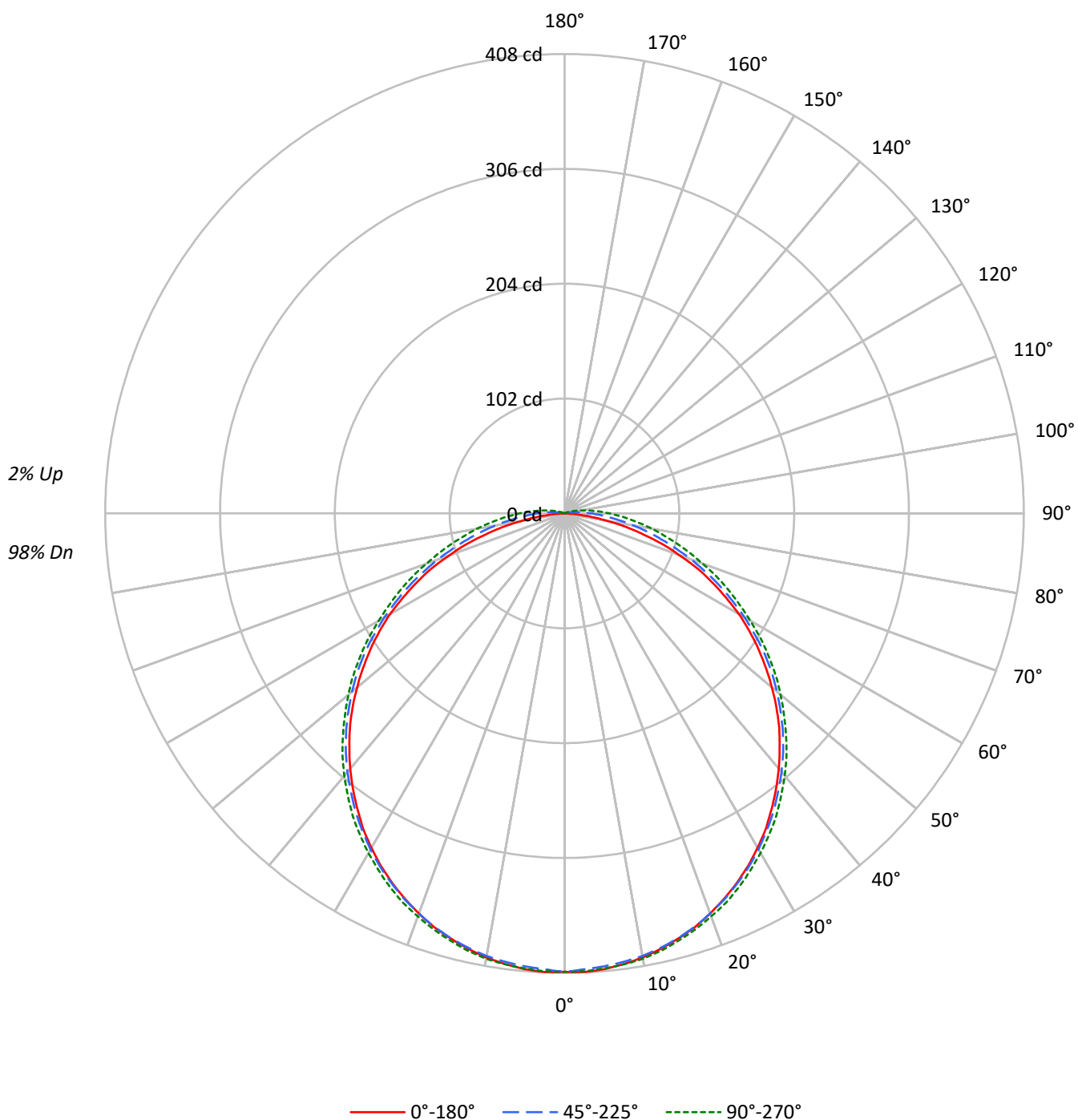
Input Watts (W): 11.5
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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

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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°	3286	3286	3286
5°	3269	3205	3217
10°	3235	3140	3152
15°	3195	3069	3075
20°	3153	2992	2999
25°	3105	2912	2923
30°	3051	2827	2836
35°	2985	2736	2751
40°	2916	2639	2651
45°	2842	2534	2542
50°	2749	2415	2426
55°	2648	2284	2297
60°	2527	2118	2147
65°	2343	1931	1999
70°	2090	1715	1826
75°	1741	1478	1670
80°	1247	1245	1527
85°	602	1008	1390

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2842 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	38.5	3.1
10°-20°	110.5	9.0
20°-30°	167.7	13.6
30°-40°	202.8	16.5
40°-50°	211.6	17.2
50°-60°	193.4	15.7
60°-70°	150.8	12.2
70°-80°	94.3	7.7
80°-90°	42.9	3.5
90°-100°	14.4	1.2
100°-110°	3.6	0.3
110°-120°	0.6	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°	316.7	25.7
0°-40°	519.5	42.2
0°-60°	924.5	75.1
0°-90°	1212.5	98.5
90°-120°	18.6	1.5
90°-150°	18.6	1.5
90°-180°	19.0	1.5
0°-180°	1231.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	407	407	407	407	407	
5°	406	406	404	406	406	39
15°	391	392	390	393	393	110
25°	362	362	363	366	366	167
35°	321	322	323	327	328	201
45°	270	272	274	277	278	208
55°	210	213	217	220	222	188
65°	145	147	152	158	161	143
75°	73	78	89	100	104	78
85°	13	23	40	53	58	16
90°	0	9	24	36	40	1
95°	0	2	12	22	26	0
105°	0	0	2	6	8	0
115°	0	0	0	1	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

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	407.1	407.1	407.1	407.1	407.1
2.5°	407.6	407.0	405.2	407.0	406.9
5°	406.3	405.5	403.7	405.6	405.6
7.5°	403.6	403.3	401.7	403.9	403.9
10°	400.4	400.3	399.0	401.4	401.5
12.5°	396.0	396.4	395.1	397.4	397.7
15°	390.8	391.5	390.4	392.6	392.6
17.5°	385.2	385.5	384.8	387.3	387.2
20°	378.2	378.6	378.1	380.7	380.9
22.5°	370.4	371.1	371.0	373.6	374.4
25°	362.1	362.4	362.8	365.9	366.4
27.5°	353.0	353.5	354.2	356.9	357.5
30°	343.0	343.8	344.6	347.4	348.2
32.5°	332.5	333.2	334.2	337.9	338.3
35°	320.6	322.0	323.4	326.6	328.0
37.5°	308.7	310.5	311.7	315.2	316.2
40°	296.1	297.9	299.9	303.6	304.3
42.5°	282.9	285.1	287.5	290.7	291.9
45°	269.7	272.1	274.3	277.0	278.3
47.5°	255.4	257.8	260.5	263.6	264.4
50°	240.6	243.4	246.3	249.2	250.7
52.5°	225.5	228.8	232.1	235.1	236.6
55°	210.5	213.0	216.9	220.1	221.5
57.5°	194.9	197.0	200.6	205.8	206.5
60°	179.1	181.0	184.7	188.9	190.6
62.5°	161.6	164.2	168.1	173.4	175.0
65°	144.6	147.1	152.2	158.3	160.8
67.5°	128.2	129.1	135.6	142.0	146.0
70°	108.8	112.1	119.7	127.5	130.5
72.5°	92.1	95.4	103.8	112.9	116.7
75°	73.2	77.7	89.1	99.7	103.5
77.5°	56.6	61.6	75.6	86.4	90.7
80°	39.5	47.3	62.6	74.7	79.4
82.5°	24.9	34.5	50.8	63.4	67.6
85°	12.7	23.4	40.2	53.2	57.9
87.5°	3.4	15.2	31.3	43.7	48.5
90°	0.1	8.7	23.7	35.6	39.9
92.5°	0.1	4.9	17.7	28.3	32.7
95°	0.1	2.3	12.3	22.3	25.7
97.5°	0.1	1.0	8.4	16.8	20.3
100°	0.1	0.5	5.4	12.2	15.2
102.5°	0.2	0.3	3.4	8.7	11.1
105°	0.2	0.3	2.0	6.0	8.0
107.5°	0.2	0.3	1.2	4.0	5.5
110°	0.3	0.3	0.7	2.5	3.6

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.3	0.3	0.4	1.6	2.4
115°	0.3	0.3	0.4	1.1	1.5
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)