

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: P517886

Luminaire Tested: HVL8-2-LD4-1LO-30-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: P517886
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
Description: 2 FOOT, 8 INCH WIDE, HVL LED LUMINAIRE, WITH 3000K, 80 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1067.0 lumens
Efficiency: N/A
Efficacy: 92.8 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

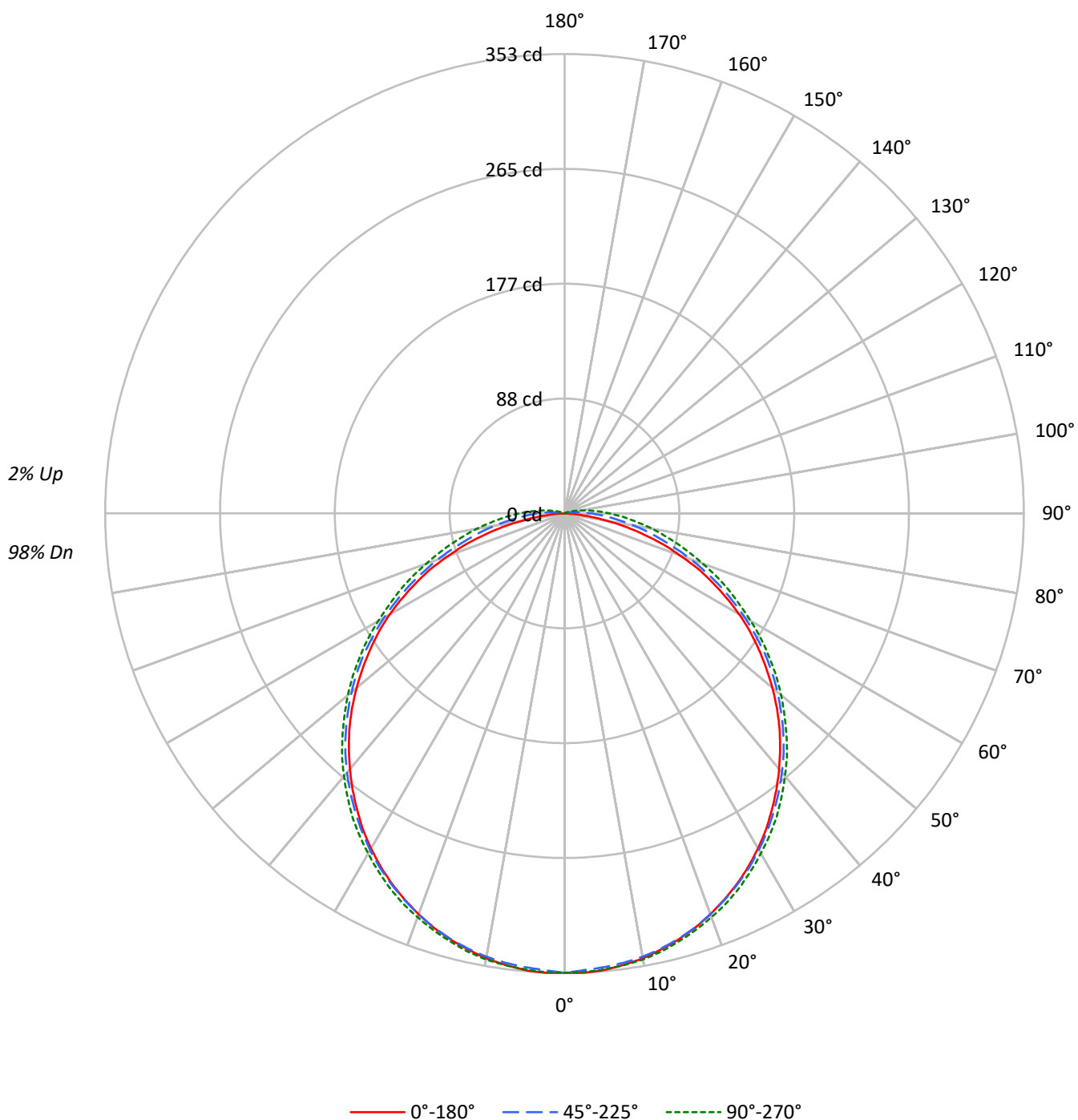
Input Watts (W): 11.5
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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°	2849	2849	2849
5°	2833	2778	2788
10°	2804	2722	2732
15°	2770	2660	2666
20°	2733	2593	2600
25°	2691	2524	2534
30°	2644	2451	2458
35°	2588	2371	2384
40°	2527	2287	2297
45°	2464	2197	2204
50°	2383	2093	2103
55°	2294	1980	1991
60°	2190	1835	1861
65°	2032	1674	1732
70°	1811	1486	1582
75°	1511	1281	1447
80°	1083	1078	1323
85°	522	875	1205

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2464 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	33.4	3.1
10°-20°	95.8	9.0
20°-30°	145.3	13.6
30°-40°	175.8	16.5
40°-50°	183.4	17.2
50°-60°	167.7	15.7
60°-70°	130.7	12.2
70°-80°	81.8	7.7
80°-90°	37.1	3.5
90°-100°	12.4	1.2
100°-110°	3.1	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°	274.5	25.7
0°-40°	450.3	42.2
0°-60°	801.3	75.1
0°-90°	1050.9	98.5
90°-120°	16.0	1.5
90°-150°	16.0	1.5
90°-180°	16.0	1.5
0°-180°	1067.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	353	353	353	353	353	
5°	352	352	350	352	352	33
15°	339	339	338	340	340	96
25°	314	314	314	317	318	145
35°	278	279	280	283	284	174
45°	234	236	238	240	241	180
55°	182	185	188	191	192	163
65°	125	128	132	137	139	124
75°	64	67	77	86	90	68
85°	11	20	35	46	50	14
90°	0	8	20	31	35	0
95°	0	2	11	19	22	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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CATALOG NUMBER: HVL8-2-LD4-1LO-30-UNV-O-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	352.9	352.9	352.9	352.9	352.9
2.5°	353.3	352.8	351.2	352.8	352.7
5°	352.2	351.5	349.9	351.6	351.6
7.5°	349.8	349.6	348.2	350.1	350.1
10°	347.1	347.0	345.8	347.9	348.0
12.5°	343.2	343.6	342.5	344.5	344.7
15°	338.8	339.3	338.4	340.3	340.3
17.5°	333.8	334.2	333.5	335.7	335.6
20°	327.8	328.2	327.7	329.9	330.2
22.5°	321.0	321.6	321.5	323.9	324.5
25°	313.9	314.1	314.5	317.1	317.6
27.5°	306.0	306.4	307.0	309.4	309.9
30°	297.3	298.0	298.7	301.2	301.8
32.5°	288.2	288.8	289.7	292.9	293.3
35°	277.9	279.1	280.3	283.1	284.3
37.5°	267.5	269.1	270.2	273.2	274.1
40°	256.6	258.2	260.0	263.1	263.7
42.5°	245.2	247.1	249.2	252.0	253.0
45°	233.8	235.8	237.8	240.1	241.3
47.5°	221.4	223.5	225.8	228.4	229.2
50°	208.6	211.0	213.5	216.0	217.3
52.5°	195.4	198.3	201.2	203.8	205.1
55°	182.4	184.6	188.0	190.8	192.0
57.5°	169.0	170.8	173.9	178.4	179.0
60°	155.2	156.9	160.1	163.7	165.2
62.5°	140.1	142.3	145.7	150.3	151.7
65°	125.4	127.5	131.9	137.2	139.3
67.5°	111.1	111.9	117.5	123.0	126.5
70°	94.3	97.2	103.7	110.5	113.1
72.5°	79.9	82.7	89.9	97.8	101.2
75°	63.5	67.4	77.2	86.4	89.7
77.5°	49.1	53.4	65.6	74.9	78.6
80°	34.3	41.0	54.2	64.7	68.8
82.5°	21.5	29.9	44.0	55.0	58.6
85°	11.0	20.3	34.9	46.1	50.2
87.5°	2.9	13.1	27.1	37.9	42.0
90°	0.1	7.6	20.5	30.9	34.6
92.5°	0.1	4.2	15.3	24.5	28.4
95°	0.1	2.0	10.6	19.3	22.3
97.5°	0.1	0.8	7.3	14.6	17.6
100°	0.1	0.4	4.7	10.6	13.1
102.5°	0.2	0.2	2.9	7.6	9.7
105°	0.2	0.2	1.7	5.2	6.9
107.5°	0.2	0.2	1.0	3.5	4.7
110°	0.2	0.2	0.6	2.2	3.2

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.2	0.2	0.3	1.4	2.1
115°	0.2	0.2	0.3	0.9	1.3
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)