

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: P518272

Luminaire Tested: HVL8-8-LD4-3LO-35-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: P518272
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-8-LD4-3LO-35-UNV-C-EDD
Description: 8 FOOT, 8 INCH WIDE, HVL LED LUMINAIRE, WITH 3500K, 80 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 14300.0 lumens
Efficiency: N/A
Efficacy: 106.1 lumens/watt
Spacing Criteria (0/90/45): 1.18 / 1.32 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.67' x L: 8' x H: 0.17')
CIE Type: Direct

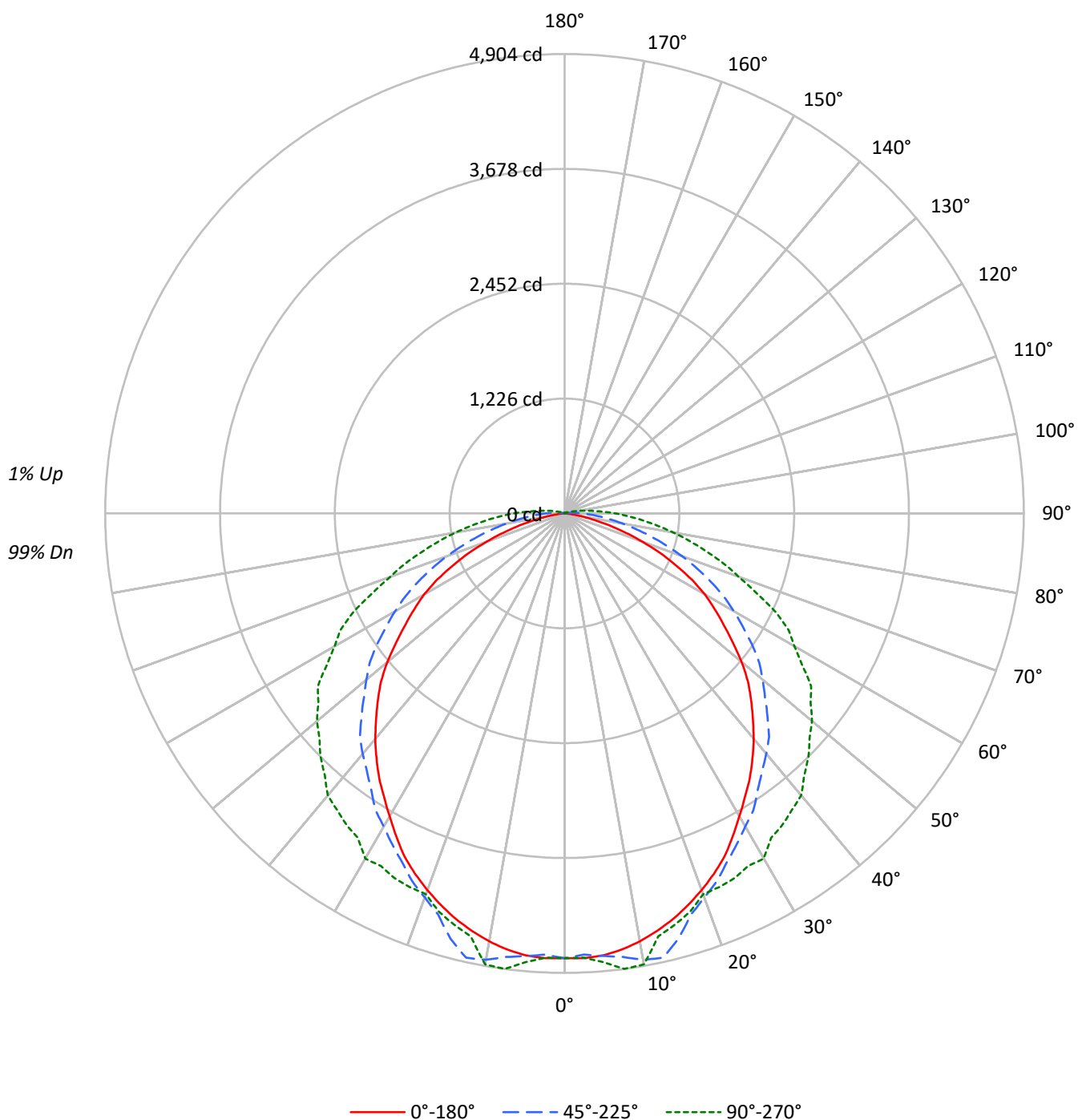
Input Watts (W): 134.8
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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
RCR																	
0	119	119	119	119	116	116	116	116	110	110	110		105	105	105		101
1	108	103	98	94	105	100	96	92	96	92	89		91	89	86		87
2	98	89	82	76	95	87	80	75	83	78	73		80	75	71		76
3	89	78	69	63	86	76	68	62	73	66	61		70	64	59		67
4	81	69	60	53	79	67	59	52	65	57	51		62	56	51		60
5	75	61	52	45	72	60	51	45	58	50	44		56	49	44		54
6	69	55	46	39	67	54	46	39	52	45	39		50	44	38		49
7	64	50	41	35	62	49	41	35	47	40	34		46	39	34		44
8	59	46	37	31	58	45	37	31	43	36	31		42	35	30		41
9	55	42	34	28	54	41	33	28	40	33	28		39	32	27		38
10	52	39	31	25	51	38	30	25	37	30	25		36	29	25		35

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	9580	9580	9580
5°	9576	9449	9534
10°	9467	9588	9592
15°	9313	9340	8903
20°	9121	8760	8515
25°	8916	8391	8568
30°	8597	8096	8662
35°	8376	7817	8509
40°	8137	7610	8562
45°	7881	7340	8407
50°	7566	7057	8344
55°	7094	6754	8339
60°	6743	6333	7983
65°	6007	5830	7728
70°	4955	5170	6930
75°	3596	4366	6326
80°	2081	3555	5679
85°	832	2717	5003

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 45°

Luminance: 8407 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	456.2	3.2
10°-20°	1299.2	9.1
20°-30°	1933.1	13.5
30°-40°	2323.6	16.2
40°-50°	2445.7	17.1
50°-60°	2269.3	15.9
60°-70°	1794.3	12.5
70°-80°	1096.0	7.7
80°-90°	477.5	3.3
90°-100°	148.7	1.0
100°-110°	33.4	0.2
110°-120°	13.4	0.1
120°-130°	7.5	0.1
130°-140°	2.0	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°	3688.5	25.8
0°-40°	6012.1	42.0
0°-60°	10727.1	75.0
0°-90°	14094.9	98.6
90°-120°	195.5	1.4
90°-150°	205.0	1.4
90°-180°	205.0	1.4
0°-180°	14300.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4747	4747	4747	4747	4747	
5°	4735	4726	4742	4795	4809	449
15°	4482	4654	4699	4544	4547	1263
25°	4043	4301	4105	4228	4296	1856
35°	3449	3545	3598	3925	4058	2156
45°	2819	2831	3064	3550	3682	2173
55°	2076	2110	2444	2979	3216	1865
65°	1314	1356	1722	2279	2486	1301
75°	497	658	960	1476	1568	542
85°	44	155	374	726	834	69
90°	1	46	196	460	542	2
95°	1	12	86	252	308	1
105°	1	7	17	49	70	1
115°	1	4	14	22	23	2
125°	1	2	6	14	20	2
135°	2	2	2	5	7	1
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: HVL8-8-LD4-3LO-35-UNV-C-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4746.8	4746.8	4746.8	4746.8	4746.8
2.5°	4752.6	4740.1	4713.9	4739.1	4745.9
5°	4735.2	4725.5	4742.0	4795.2	4808.7
7.5°	4695.6	4732.3	4775.8	4872.5	4903.5
10°	4636.6	4706.2	4836.7	4918.9	4887.0
12.5°	4565.0	4683.0	4858.0	4697.5	4623.1
15°	4481.9	4654.0	4699.4	4543.8	4546.7
17.5°	4384.2	4629.8	4489.6	4485.7	4457.7
20°	4278.8	4548.6	4362.9	4355.2	4325.2
22.5°	4165.7	4441.3	4250.8	4235.3	4316.5
25°	4042.9	4301.1	4104.8	4227.6	4296.2
27.5°	3889.1	4117.3	3982.9	4157.0	4243.0
30°	3733.4	3927.8	3858.2	4100.9	4253.7
32.5°	3587.4	3729.6	3755.7	4079.6	4104.8
35°	3449.2	3544.9	3598.1	3924.9	4058.3
37.5°	3297.3	3323.5	3464.6	3860.1	3988.7
40°	3142.6	3126.2	3352.5	3753.8	3931.7
42.5°	2976.3	2970.5	3233.5	3700.6	3789.5
45°	2818.7	2831.3	3064.3	3549.7	3682.2
47.5°	2657.2	2673.7	2903.8	3384.4	3548.8
50°	2469.6	2490.9	2760.7	3237.4	3449.2
52.5°	2266.6	2307.2	2621.4	3098.1	3311.8
55°	2076.1	2109.9	2444.5	2979.2	3216.1
57.5°	1902.0	1922.3	2261.7	2829.3	3008.2
60°	1730.9	1735.7	2089.6	2663.0	2834.2
62.5°	1534.6	1543.3	1912.7	2466.7	2695.9
65°	1314.1	1355.7	1722.2	2279.1	2486.1
67.5°	1108.1	1180.7	1527.8	2107.0	2215.3
70°	887.7	1010.5	1337.3	1904.9	1981.3
72.5°	685.6	829.7	1142.0	1678.6	1786.0
75°	497.0	658.5	960.2	1475.6	1568.4
77.5°	334.6	499.0	790.0	1251.3	1374.1
80°	200.2	364.5	638.2	1043.4	1181.6
82.5°	102.5	244.6	495.1	875.1	998.9
85°	44.5	154.7	374.2	726.2	833.5
87.5°	12.6	88.0	275.6	586.9	677.8
90°	1.0	46.4	196.3	460.3	542.5
92.5°	1.0	22.2	138.3	348.1	411.0
95°	1.0	11.6	86.1	252.4	308.5
97.5°	1.0	6.8	52.2	178.9	226.3
100°	1.0	5.8	30.9	118.9	161.5
102.5°	1.0	6.8	21.3	75.4	105.4
105°	1.0	6.8	17.4	49.3	69.6
107.5°	1.9	6.8	15.5	36.7	48.3
110°	1.0	5.8	16.4	28.0	37.7

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	1.9	4.8	15.5	23.2	28.0
115°	1.0	3.9	13.5	22.2	23.2
117.5°	1.9	2.9	10.6	22.2	23.2
120°	1.9	1.9	8.7	21.3	24.2
122.5°	1.9	1.9	6.8	19.3	23.2
125°	1.0	1.9	5.8	14.5	20.3
127.5°	1.9	1.9	4.8	11.6	15.5
130°	1.9	1.9	3.9	8.7	11.6
132.5°	1.9	1.9	2.9	6.8	8.7
135°	1.9	1.9	1.9	4.8	6.8
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)