

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: P518269

Luminaire Tested: HVL8-8-LD4-3LO-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: P518269
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-8-LD4-3LO-30-UNV-O-EDD-90
Description: 8 FOOT, 8 INCH WIDE, HVL LED LUMINAIRE, WITH 3000K, 90 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 14743.0 lumens
Efficiency: N/A
Efficacy: 109.4 lumens/watt
Spacing Criteria (0/90/45): 1.25 / 1.27 / 1.38
Luminous Opening: Rectangular w/ Sides (W: 0.67' x L: 8' x H: 0.17')
CIE Type: Direct

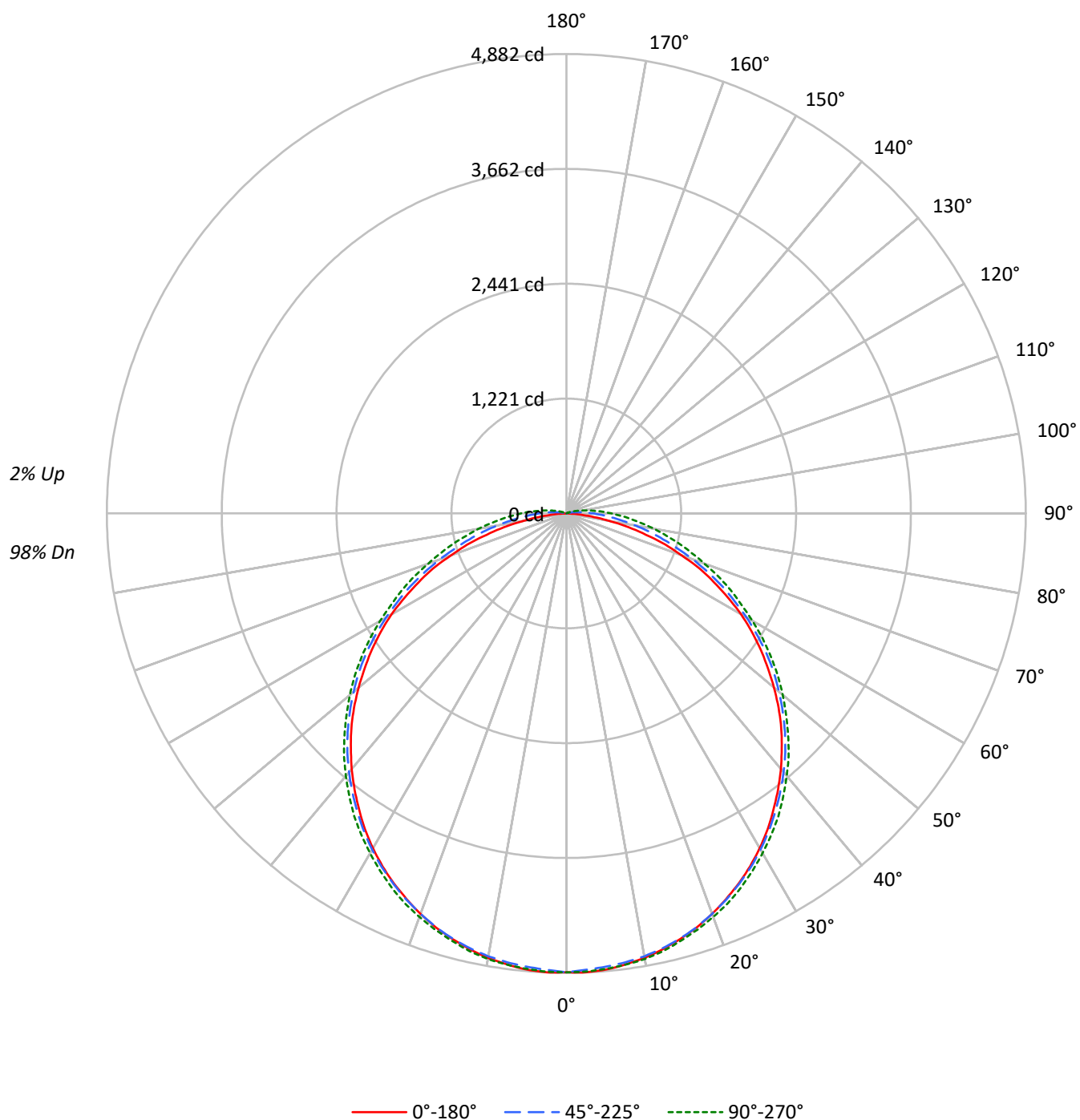
Input Watts (W): 134.8
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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	102	98	94	105	100	96	92	95	92	89		91	88	86		87
2	98	89	82	76	95	87	80	75	83	77	73		79	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	52		62	56	51		60
5	75	61	52	45	72	60	52	45	58	50	44		56	49	44		54
6	69	55	46	40	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°	9841	9841	9841
5°	9840	9633	9631
10°	9792	9473	9438
15°	9726	9293	9206
20°	9654	9091	8981
25°	9565	8882	8753
30°	9460	8659	8493
35°	9323	8413	8235
40°	9182	8153	7935
45°	9031	7869	7611
50°	8829	7540	7263
55°	8614	7177	6879
60°	8356	6703	6430
65°	7919	6171	5985
70°	7275	5542	5468
75°	6346	4851	4998
80°	4923	4175	4569
85°	2837	3497	4160

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 9031 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	461.4	3.1
10°-20°	1323.6	9.0
20°-30°	2008.3	13.6
30°-40°	2428.4	16.5
40°-50°	2533.8	17.2
50°-60°	2316.7	15.7
60°-70°	1806.0	12.2
70°-80°	1129.7	7.7
80°-90°	513.1	3.5
90°-100°	172.0	1.2
100°-110°	43.2	0.3
110°-120°	6.8	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°	3793.3	25.7
0°-40°	6221.7	42.2
0°-60°	11072.2	75.1
0°-90°	14521.1	98.5
90°-120°	221.9	1.5
90°-150°	221.9	1.5
90°-180°	222.0	1.5
0°-180°	14743.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4876	4876	4876	4876	4876	
5°	4866	4857	4835	4858	4858	462
15°	4681	4689	4676	4702	4701	1321
25°	4337	4340	4345	4382	4389	1998
35°	3839	3856	3873	3912	3928	2403
45°	3230	3259	3285	3317	3334	2489
55°	2521	2551	2598	2636	2653	2252
65°	1732	1762	1823	1896	1925	1714
75°	877	931	1067	1194	1239	935
85°	152	280	482	637	693	192
90°	1	105	284	426	478	6
95°	1	28	147	267	308	1
105°	2	3	24	71	95	2
115°	3	3	5	13	18	2
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°	4876.1	4876.1	4876.1	4876.1	4876.1
2.5°	4881.8	4874.9	4853.1	4874.9	4873.8
5°	4865.7	4856.6	4834.7	4857.7	4857.7
7.5°	4833.6	4830.1	4810.6	4837.0	4837.0
10°	4795.6	4794.5	4778.4	4807.1	4808.3
12.5°	4742.8	4747.4	4732.4	4760.0	4763.4
15°	4680.7	4688.7	4676.1	4702.5	4701.4
17.5°	4612.9	4617.5	4608.3	4638.2	4637.0
20°	4529.0	4534.7	4527.8	4558.8	4562.3
22.5°	4435.8	4443.9	4442.7	4474.9	4484.1
25°	4337.0	4340.4	4345.0	4381.8	4388.7
27.5°	4227.8	4233.5	4241.6	4274.9	4281.8
30°	4108.2	4117.4	4126.6	4161.1	4170.3
32.5°	3981.8	3991.0	4002.5	4047.3	4051.9
35°	3839.3	3856.5	3872.6	3911.7	3927.8
37.5°	3696.7	3718.6	3733.5	3774.9	3787.5
40°	3546.1	3568.0	3592.1	3635.8	3643.9
42.5°	3388.7	3414.0	3442.7	3481.8	3495.6
45°	3230.0	3258.8	3285.2	3317.4	3333.5
47.5°	3058.8	3087.5	3119.7	3156.5	3166.8
50°	2881.7	2915.1	2949.6	2984.0	3002.4
52.5°	2700.1	2740.4	2779.4	2816.2	2833.5
55°	2520.8	2550.7	2597.8	2635.8	2653.0
57.5°	2334.6	2359.9	2402.4	2464.5	2473.7
60°	2144.9	2167.9	2211.6	2262.2	2282.9
62.5°	1935.7	1966.8	2012.7	2077.1	2095.5
65°	1732.3	1762.2	1823.1	1895.5	1925.4
67.5°	1535.7	1546.1	1624.2	1700.1	1748.4
70°	1303.5	1342.6	1433.4	1526.5	1563.3
72.5°	1103.5	1142.6	1242.6	1351.8	1397.8
75°	877.1	931.1	1066.7	1194.3	1239.1
77.5°	678.2	738.0	905.8	1034.5	1086.3
80°	473.6	566.7	749.5	894.3	950.6
82.5°	297.7	412.7	608.1	759.8	809.2
85°	151.7	280.5	481.6	636.8	693.1
87.5°	40.2	181.6	374.7	523.0	580.5
90°	1.1	104.6	283.9	426.5	478.2
92.5°	1.1	58.6	211.5	339.1	392.0
95°	1.1	27.6	147.1	266.7	308.1
97.5°	1.1	11.5	101.2	201.2	242.5
100°	1.1	5.7	64.4	146.0	181.6
102.5°	2.3	3.4	40.2	104.6	133.3
105°	2.3	3.4	24.1	71.3	95.4
107.5°	2.3	3.4	13.8	48.3	65.5
110°	3.4	3.4	8.0	29.9	43.7

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	3.4	3.4	4.6	19.5	28.7
115°	3.4	3.4	4.6	12.6	18.4
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)