

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: P518268

Luminaire Tested: HVL8-8-LD4-3LO-30-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: P518268
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-C-EDD
Description: 8 FOOT, 8 INCH WIDE, HVL LED LUMINAIRE, WITH 3000K, 80 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 14111.0 lumens
Efficiency: N/A
Efficacy: 104.7 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

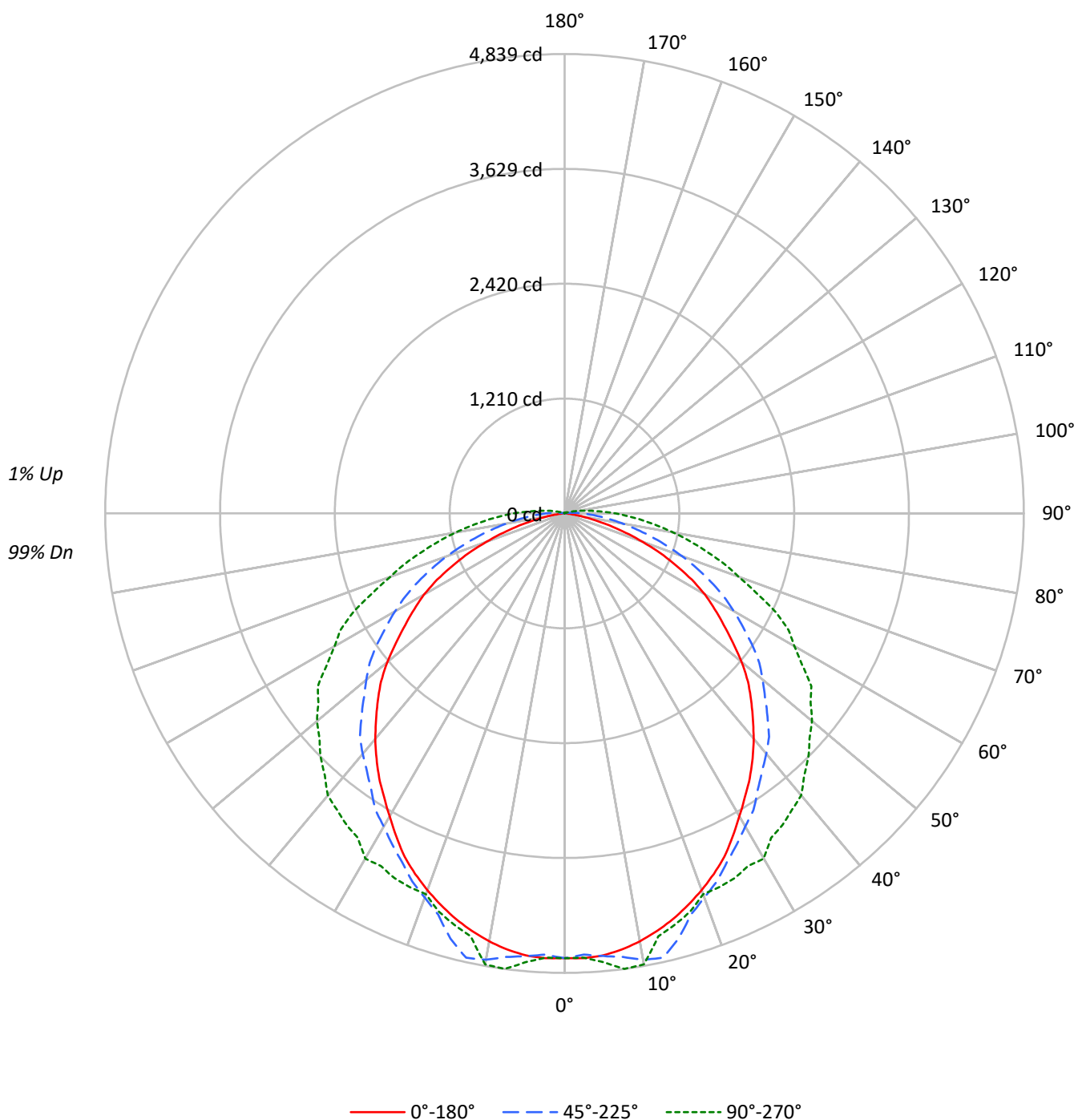
Input Watts (W): 134.8
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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	30	10	50	30	10
RCR																				
0	119	119	119	119	116	116	116	116	110	110	110	105	105	105	101	101	101			99
1	108	103	98	94	105	100	96	92	96	92	89	91	89	86	87	85	83			81
2	98	89	82	76	95	87	80	75	83	78	73	80	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	51	62	56	51	60	54	50			47
5	75	61	52	45	72	60	51	45	58	50	44	56	49	44	54	48	43			41
6	69	55	46	39	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°	9454	9454	9454
5°	9449	9324	9408
10°	9342	9462	9466
15°	9189	9216	8786
20°	9000	8644	8402
25°	8798	8280	8455
30°	8484	7989	8548
35°	8265	7713	8397
40°	8030	7509	8449
45°	7777	7243	8296
50°	7466	6964	8233
55°	7000	6665	8228
60°	6654	6250	7877
65°	5928	5753	7626
70°	4889	5102	6839
75°	3549	4308	6243
80°	2053	3509	5604
85°	821	2681	4937

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 45°

Luminance: 8296 cd/sqm

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CATALOG NUMBER: HVL8-8-LD4-3LO-30-UNV-C-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	450.2	3.2
10°-20°	1282.0	9.1
20°-30°	1907.5	13.5
30°-40°	2292.8	16.2
40°-50°	2413.4	17.1
50°-60°	2239.3	15.9
60°-70°	1770.6	12.5
70°-80°	1081.5	7.7
80°-90°	471.2	3.3
90°-100°	146.7	1.0
100°-110°	33.0	0.2
110°-120°	13.3	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°	3639.8	25.8
0°-40°	5932.6	42.0
0°-60°	10585.3	75.0
0°-90°	13908.6	98.6
90°-120°	192.9	1.4
90°-150°	202.4	1.4
90°-180°	202.0	1.4
0°-180°	14111.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4684	4684	4684	4684	4684	
5°	4673	4663	4679	4732	4745	443
15°	4423	4592	4637	4484	4487	1246
25°	3989	4244	4050	4172	4239	1832
35°	3404	3498	3550	3873	4005	2127
45°	2781	2794	3024	3503	3634	2144
55°	2049	2082	2412	2940	3174	1841
65°	1297	1338	1699	2249	2453	1284
75°	490	650	948	1456	1548	535
85°	44	153	369	717	822	68
90°	1	46	194	454	535	2
95°	1	12	85	249	304	1
105°	1	7	17	49	69	1
115°	1	4	13	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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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4684.1	4684.1	4684.1	4684.1	4684.1
2.5°	4689.8	4677.4	4651.6	4676.5	4683.1
5°	4672.6	4663.1	4679.3	4731.8	4745.2
7.5°	4633.5	4669.8	4712.7	4808.1	4838.7
10°	4575.3	4644.0	4772.8	4853.9	4822.4
12.5°	4504.7	4621.1	4793.8	4635.4	4561.9
15°	4422.6	4592.5	4637.3	4483.7	4486.6
17.5°	4326.3	4568.6	4430.3	4426.5	4398.8
20°	4222.3	4488.5	4305.3	4297.6	4268.1
22.5°	4110.6	4382.6	4194.6	4179.3	4259.5
25°	3989.4	4244.2	4050.5	4171.7	4239.4
27.5°	3837.7	4062.9	3930.3	4102.0	4187.0
30°	3684.1	3875.9	3807.2	4046.7	4197.5
32.5°	3540.0	3680.3	3706.0	4025.7	4050.5
35°	3403.6	3498.0	3550.5	3873.0	4004.7
37.5°	3253.8	3279.5	3418.8	3809.1	3936.0
40°	3101.1	3084.9	3308.2	3704.1	3879.7
42.5°	2937.0	2931.3	3190.8	3651.7	3739.4
45°	2781.4	2793.8	3023.8	3502.8	3633.5
47.5°	2622.1	2638.3	2865.4	3339.6	3501.9
50°	2437.0	2458.0	2724.2	3194.6	3403.6
52.5°	2236.6	2276.7	2586.8	3057.2	3268.1
55°	2048.6	2082.0	2412.2	2939.8	3173.6
57.5°	1876.9	1896.9	2231.8	2791.9	2968.5
60°	1708.0	1712.8	2062.0	2627.8	2796.7
62.5°	1514.3	1522.9	1887.4	2434.1	2660.3
65°	1296.7	1337.8	1699.4	2249.0	2453.2
67.5°	1093.5	1165.1	1507.6	2079.2	2186.0
70°	875.9	997.1	1319.6	1879.7	1955.1
72.5°	676.5	818.7	1126.9	1656.5	1762.4
75°	490.5	649.8	947.5	1456.1	1547.7
77.5°	330.1	492.4	779.6	1234.7	1355.9
80°	197.5	359.7	629.8	1029.6	1166.0
82.5°	101.1	241.4	488.5	863.5	985.7
85°	43.9	152.7	369.3	716.6	822.5
87.5°	12.4	86.8	271.9	579.2	668.9
90°	1.0	45.8	193.7	454.2	535.3
92.5°	1.0	21.9	136.4	343.5	405.5
95°	1.0	11.5	84.9	249.0	304.4
97.5°	1.0	6.7	51.5	176.5	223.3
100°	1.0	5.7	30.5	117.4	159.3
102.5°	1.0	6.7	21.0	74.4	104.0
105°	1.0	6.7	17.2	48.7	68.7
107.5°	1.9	6.7	15.3	36.3	47.7
110°	1.0	5.7	16.2	27.7	37.2

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	1.9	4.8	15.3	22.9	27.7
115°	1.0	3.8	13.4	21.9	22.9
117.5°	1.9	2.9	10.5	21.9	22.9
120°	1.9	1.9	8.6	21.0	23.9
122.5°	1.9	1.9	6.7	19.1	22.9
125°	1.0	1.9	5.7	14.3	20.0
127.5°	1.9	1.9	4.8	11.5	15.3
130°	1.9	1.9	3.8	8.6	11.5
132.5°	1.9	1.9	2.9	6.7	8.6
135°	1.9	1.9	1.9	4.8	6.7
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)