

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: P518251

Luminaire Tested: HVL8-8-LD4-3HI-30-UNV-C-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: P518251
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-8-LD4-3HI-30-UNV-C-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: 26992.0 lumens
Efficiency: N/A
Efficacy: 107.2 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

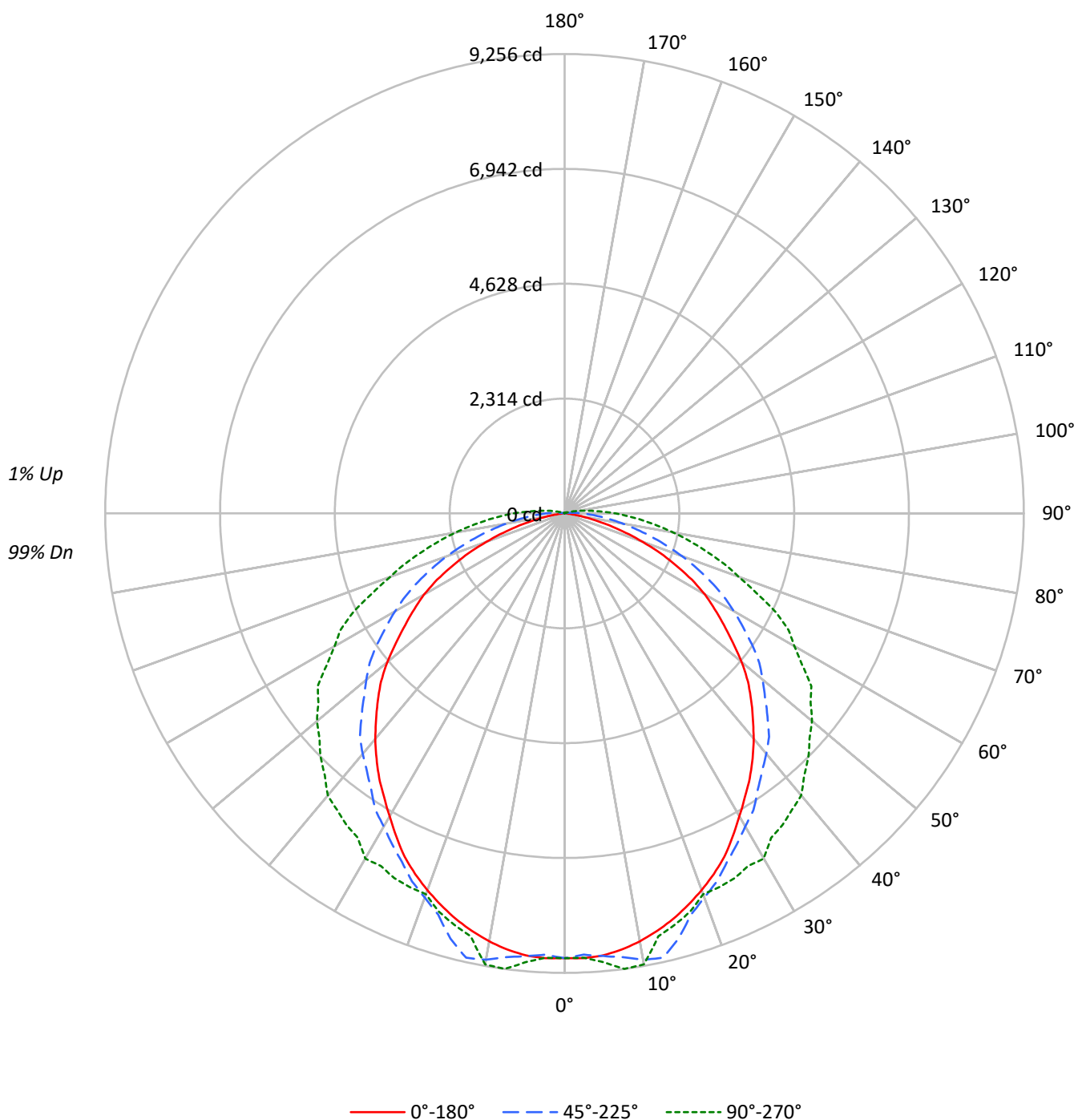
Input Watts (W): 251.8
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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°	18083	18083	18083
5°	18075	17835	17995
10°	17870	18099	18106
15°	17578	17629	16806
20°	17216	16535	16072
25°	16830	15839	16173
30°	16228	15282	16351
35°	15810	14754	16061
40°	15360	14363	16161
45°	14876	13855	15869
50°	14282	13321	15749
55°	13390	12748	15740
60°	12728	11955	15068
65°	11339	11004	14587
70°	9352	9759	13081
75°	6787	8241	11942
80°	3927	6711	10720
85°	1571	5128	9443

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 45°

Luminance: 15869 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	861.1	3.2
10°-20°	2452.3	9.1
20°-30°	3648.8	13.5
30°-40°	4385.8	16.2
40°-50°	4616.4	17.1
50°-60°	4283.5	15.9
60°-70°	3386.8	12.5
70°-80°	2068.8	7.7
80°-90°	901.3	3.3
90°-100°	280.6	1.0
100°-110°	63.1	0.2
110°-120°	25.4	0.1
120°-130°	14.3	0.1
130°-140°	3.9	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°	6962.3	25.8
0°-40°	11348.1	42.0
0°-60°	20247.9	75.0
0°-90°	26604.9	98.6
90°-120°	369.0	1.4
90°-150°	387.1	1.4
90°-180°	387.0	1.4
0°-180°	26992.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	8960	8960	8960	8960	8960	
5°	8938	8920	8951	9051	9077	847
15°	8460	8785	8870	8577	8582	2383
25°	7631	8118	7748	7980	8109	3503
35°	6510	6691	6792	7408	7660	4069
45°	5320	5344	5784	6700	6950	4101
55°	3919	3983	4614	5623	6071	3521
65°	2480	2559	3251	4302	4693	2457
75°	938	1243	1812	2785	2960	1024
85°	84	292	706	1371	1573	130
90°	2	88	370	869	1024	4
95°	2	22	162	476	582	1
105°	2	13	33	93	131	2
115°	2	7	26	42	44	3
125°	2	4	11	27	38	3
135°	4	4	4	9	13	2
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°	8959.9	8959.9	8959.9	8959.9	8959.9
2.5°	8970.8	8947.1	8897.8	8945.3	8958.1
5°	8938.0	8919.7	8950.7	9051.1	9076.7
7.5°	8863.1	8932.5	9014.6	9197.2	9255.6
10°	8751.8	8883.2	9129.6	9284.8	9224.5
12.5°	8616.7	8839.4	9169.8	8866.8	8726.3
15°	8459.8	8784.7	8870.4	8576.6	8582.1
17.5°	8275.4	8739.0	8474.4	8467.1	8414.1
20°	8076.5	8585.7	8235.3	8220.7	8164.1
22.5°	7862.9	8383.1	8023.6	7994.3	8147.7
25°	7631.1	8118.5	7747.9	7979.7	8109.3
27.5°	7340.9	7771.7	7518.0	7846.5	8008.9
30°	7047.1	7413.9	7282.5	7740.6	8029.0
32.5°	6771.5	7039.8	7089.1	7700.5	7747.9
35°	6510.5	6691.2	6791.5	7408.5	7660.3
37.5°	6223.9	6273.2	6539.7	7286.2	7528.9
40°	5931.9	5900.9	6327.9	7085.4	7421.2
42.5°	5617.9	5607.0	6103.4	6985.0	7152.9
45°	5320.4	5344.2	5784.0	6700.3	6950.3
47.5°	5015.6	5046.7	5481.1	6388.2	6698.5
50°	4661.5	4701.7	5210.9	6110.7	6510.5
52.5°	4278.3	4354.9	4948.1	5847.9	6251.3
55°	3918.7	3982.6	4614.1	5623.4	6070.6
57.5°	3590.2	3628.5	4269.1	5340.5	5678.2
60°	3267.1	3276.2	3944.2	5026.6	5349.6
62.5°	2896.6	2913.0	3610.2	4656.1	5088.6
65°	2480.4	2558.9	3250.7	4302.0	4692.6
67.5°	2091.7	2228.6	2883.8	3977.1	4181.5
70°	1675.5	1907.3	2524.2	3595.6	3739.8
72.5°	1294.1	1566.0	2155.6	3168.5	3371.1
75°	938.1	1243.0	1812.4	2785.2	2960.5
77.5°	631.5	941.8	1491.2	2361.8	2593.6
80°	377.8	688.1	1204.6	1969.4	2230.4
82.5°	193.5	461.8	934.5	1651.8	1885.4
85°	84.0	292.0	706.3	1370.7	1573.3
87.5°	23.7	166.1	520.2	1107.9	1279.5
90°	1.8	87.6	370.5	868.8	1023.9
92.5°	1.8	42.0	261.0	657.1	775.7
95°	1.8	21.9	162.4	476.4	582.2
97.5°	1.8	12.8	98.6	337.7	427.1
100°	1.8	11.0	58.4	224.5	304.8
102.5°	1.8	12.8	40.2	142.4	198.9
105°	1.8	12.8	32.9	93.1	131.4
107.5°	3.7	12.8	29.2	69.4	91.3
110°	1.8	11.0	31.0	52.9	71.2

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	3.7	9.1	29.2	43.8	52.9
115°	1.8	7.3	25.6	42.0	43.8
117.5°	3.7	5.5	20.1	42.0	43.8
120°	3.7	3.7	16.4	40.2	45.6
122.5°	3.7	3.7	12.8	36.5	43.8
125°	1.8	3.7	11.0	27.4	38.3
127.5°	3.7	3.7	9.1	21.9	29.2
130°	3.7	3.7	7.3	16.4	21.9
132.5°	3.7	3.7	5.5	12.8	16.4
135°	3.7	3.7	3.7	9.1	12.8
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)