

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: P518204

Luminaire Tested: HVL8-8-LD4-2HI-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: P518204
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-8-LD4-2HI-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: 14834.0 lumens
Efficiency: N/A
Efficacy: 86.1 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

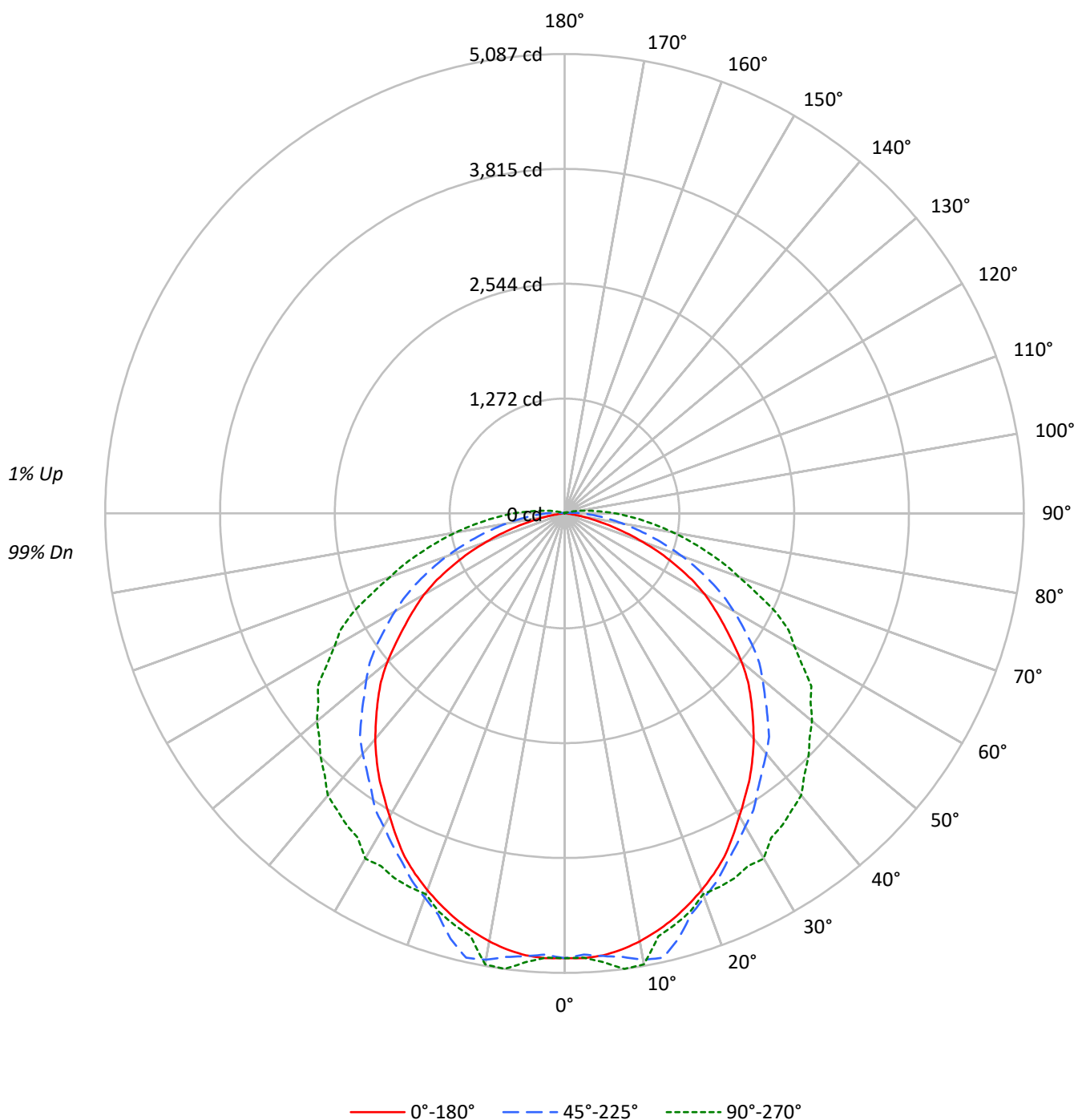
Input Watts (W): 172.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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°	9938	9938	9938
5°	9933	9802	9890
10°	9821	9947	9951
15°	9660	9689	9236
20°	9461	9087	8833
25°	9249	8705	8888
30°	8918	8398	8986
35°	8689	8108	8827
40°	8441	7894	8882
45°	8175	7614	8721
50°	7849	7321	8655
55°	7359	7006	8650
60°	6995	6570	8281
65°	6232	6047	8017
70°	5139	5363	7189
75°	3730	4529	6563
80°	2158	3688	5892
85°	862	2819	5189

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 45°

Luminance: 8721 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	473.3	3.2
10°-20°	1347.7	9.1
20°-30°	2005.3	13.5
30°-40°	2410.3	16.2
40°-50°	2537.0	17.1
50°-60°	2354.1	15.9
60°-70°	1861.3	12.5
70°-80°	1136.9	7.7
80°-90°	495.4	3.3
90°-100°	154.2	1.0
100°-110°	34.6	0.2
110°-120°	13.9	0.1
120°-130°	7.8	0.1
130°-140°	2.1	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°	3826.3	25.8
0°-40°	6236.6	42.0
0°-60°	11127.7	75.0
0°-90°	14621.3	98.6
90°-120°	202.8	1.4
90°-150°	212.7	1.4
90°-180°	213.0	1.4
0°-180°	14834.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4924	4924	4924	4924	4924	
5°	4912	4902	4919	4974	4988	466
15°	4649	4828	4875	4713	4716	1310
25°	4194	4462	4258	4385	4457	1925
35°	3578	3677	3732	4072	4210	2236
45°	2924	2937	3179	3682	3820	2254
55°	2154	2189	2536	3090	3336	1935
65°	1363	1406	1786	2364	2579	1350
75°	516	683	996	1531	1627	563
85°	46	160	388	753	865	71
90°	1	48	204	478	563	2
95°	1	12	89	262	320	1
105°	1	7	18	51	72	1
115°	1	4	14	23	24	2
125°	1	2	6	15	21	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

TEST NUMBER: P518204

CATALOG NUMBER: HVL8-8-LD4-2HI-30-UNV-C-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4924.1	4924.1	4924.1	4924.1	4924.1
2.5°	4930.1	4917.1	4890.0	4916.1	4923.1
5°	4912.0	4902.0	4919.1	4974.2	4988.3
7.5°	4870.9	4909.0	4954.2	5054.5	5086.6
10°	4809.7	4882.0	5017.4	5102.6	5069.5
12.5°	4735.5	4857.9	5039.4	4872.9	4795.7
15°	4649.2	4827.8	4874.9	4713.4	4716.4
17.5°	4547.9	4802.7	4657.3	4653.3	4624.2
20°	4438.6	4718.5	4525.9	4517.8	4486.7
22.5°	4321.2	4607.1	4409.5	4393.5	4477.7
25°	4193.8	4461.7	4258.0	4385.4	4456.6
27.5°	4034.4	4271.1	4131.7	4312.2	4401.5
30°	3872.9	4074.5	4002.3	4254.0	4412.5
32.5°	3721.4	3868.8	3895.9	4232.0	4258.0
35°	3578.0	3677.3	3732.4	4071.5	4209.9
37.5°	3420.5	3447.6	3594.0	4004.3	4137.7
40°	3260.0	3242.9	3477.7	3893.9	4078.5
42.5°	3087.5	3081.4	3354.3	3838.8	3931.0
45°	2924.0	2937.0	3178.7	3682.3	3819.7
47.5°	2756.4	2773.5	3012.2	3510.8	3681.3
50°	2561.8	2583.9	2863.8	3358.3	3578.0
52.5°	2351.2	2393.3	2719.3	3213.8	3435.5
55°	2153.6	2188.7	2535.8	3090.5	3336.2
57.5°	1973.0	1994.1	2346.2	2935.0	3120.6
60°	1795.5	1800.5	2167.6	2762.5	2940.0
62.5°	1591.9	1600.9	1984.1	2558.8	2796.6
65°	1363.2	1406.3	1786.5	2364.2	2578.9
67.5°	1149.5	1224.8	1584.9	2185.7	2298.0
70°	920.8	1048.2	1387.2	1976.1	2055.3
72.5°	711.2	860.6	1184.6	1741.3	1852.7
75°	515.6	683.1	996.1	1530.7	1627.0
77.5°	347.1	517.6	819.5	1298.0	1425.4
80°	207.6	378.2	662.0	1082.3	1225.8
82.5°	106.3	253.8	513.6	907.8	1036.2
85°	46.1	160.5	388.2	753.3	864.6
87.5°	13.0	91.3	285.9	608.9	703.2
90°	1.0	48.1	203.6	477.5	562.7
92.5°	1.0	23.1	143.4	361.1	426.3
95°	1.0	12.0	89.3	261.8	320.0
97.5°	1.0	7.0	54.2	185.6	234.7
100°	1.0	6.0	32.1	123.4	167.5
102.5°	1.0	7.0	22.1	78.2	109.3
105°	1.0	7.0	18.1	51.2	72.2
107.5°	2.0	7.0	16.0	38.1	50.2
110°	1.0	6.0	17.1	29.1	39.1

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CATALOG NUMBER: HVL8-8-LD4-2HI-30-UNV-C-EDD

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	2.0	5.0	16.0	24.1	29.1
115°	1.0	4.0	14.0	23.1	24.1
117.5°	2.0	3.0	11.0	23.1	24.1
120°	2.0	2.0	9.0	22.1	25.1
122.5°	2.0	2.0	7.0	20.1	24.1
125°	1.0	2.0	6.0	15.0	21.1
127.5°	2.0	2.0	5.0	12.0	16.0
130°	2.0	2.0	4.0	9.0	12.0
132.5°	2.0	2.0	3.0	7.0	9.0
135°	2.0	2.0	2.0	5.0	7.0
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)