

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: P517640

Luminaire Tested: HVL12-8-LD4-2HI-50-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: P517640
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL12-8-LD4-2HI-50-UNV-C-EDD
Description: 8 FOOT, 12 INCH WIDE, HVL LED LUMINAIRE, WITH 5000K, 80 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 16760.0 lumens
Efficiency: N/A
Efficacy: 94.7 lumens/watt
Spacing Criteria (0/90/45): 1.18 / 1.32 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 1' x L: 8' x H: 0.17')
CIE Type: Direct

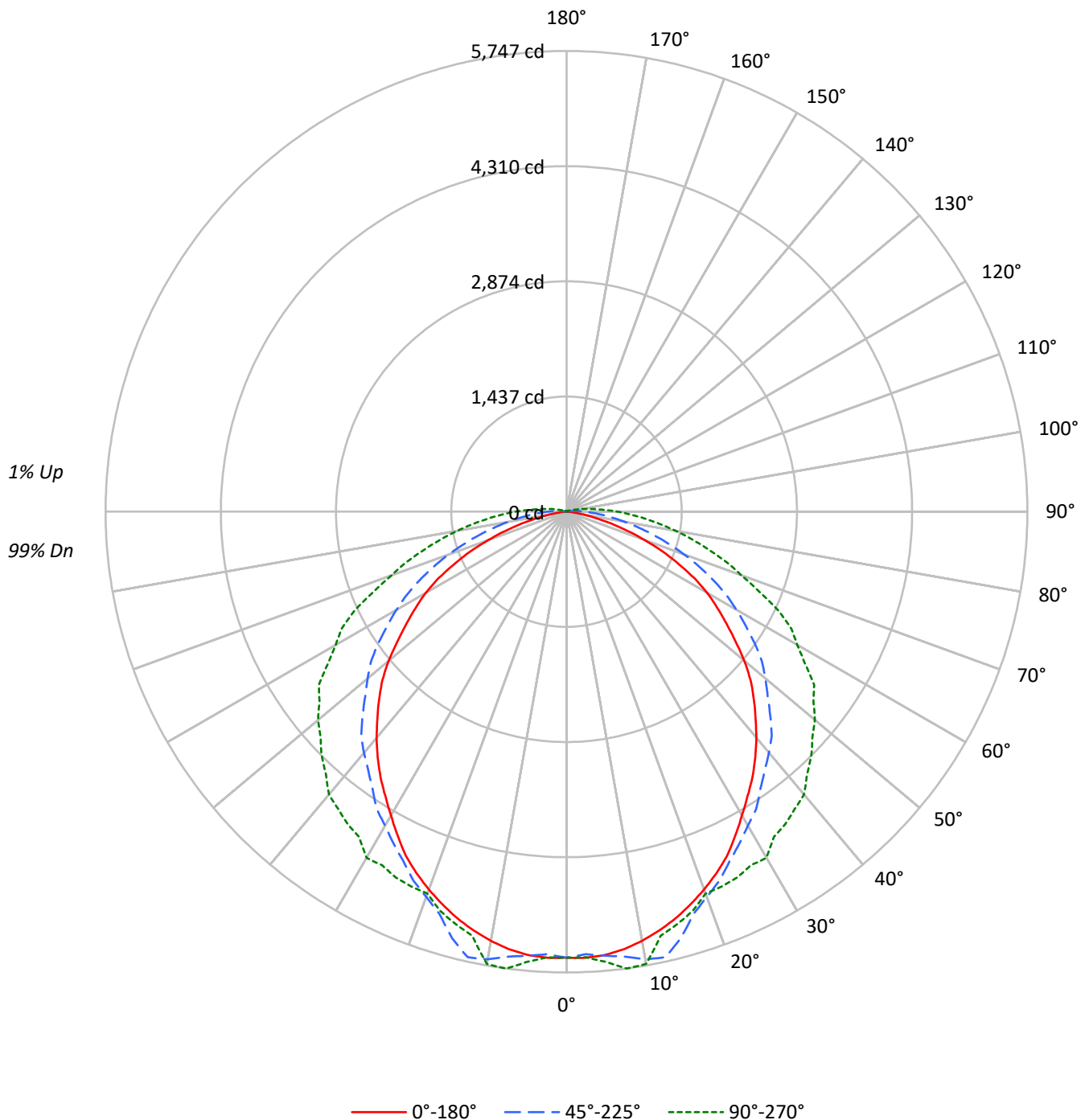
Input Watts (W): 176.9
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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°	7485	7485	7485
5°	7482	7420	7503
10°	7397	7568	7602
15°	7276	7409	7105
20°	7126	6985	6843
25°	6967	6726	6936
30°	6717	6526	7065
35°	6544	6338	6996
40°	6358	6210	7100
45°	6158	6034	7038
50°	5912	5849	7059
55°	5543	5651	7142
60°	5269	5359	6936
65°	4694	5003	6833
70°	3871	4519	6265
75°	2810	3914	5891
80°	1626	3308	5516
85°	650	2691	5191

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 55°

Luminance: 7142 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	534.7	3.2
10°-20°	1522.7	9.1
20°-30°	2265.6	13.5
30°-40°	2723.3	16.2
40°-50°	2866.4	17.1
50°-60°	2659.7	15.9
60°-70°	2103.0	12.5
70°-80°	1284.6	7.7
80°-90°	559.7	3.3
90°-100°	174.2	1.0
100°-110°	39.1	0.2
110°-120°	15.7	0.1
120°-130°	8.9	0.1
130°-140°	2.4	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°	4323.0	25.8
0°-40°	7046.3	42.0
0°-60°	12572.5	75.0
0°-90°	16519.7	98.6
90°-120°	229.1	1.4
90°-150°	240.4	1.4
90°-180°	240.0	1.4
0°-180°	16760.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5563	5563	5563	5563	5563	
5°	5550	5538	5558	5620	5636	526
15°	5253	5455	5508	5325	5329	1480
25°	4738	5041	4811	4955	5035	2175
35°	4042	4155	4217	4600	4756	2527
45°	3304	3318	3592	4160	4316	2547
55°	2433	2473	2865	3492	3769	2186
65°	1540	1589	2018	2671	2914	1525
75°	582	772	1125	1729	1838	636
85°	52	181	439	851	977	81
90°	1	54	230	540	636	2
95°	1	14	101	296	362	1
105°	1	8	20	58	82	1
115°	1	4	16	26	27	2
125°	1	2	7	17	24	2
135°	2	2	2	6	8	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: HVL12-8-LD4-2HI-50-UNV-C-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	5563.4	5563.4	5563.4	5563.4	5563.4
2.5°	5570.2	5555.5	5524.9	5554.3	5562.3
5°	5549.8	5538.5	5557.7	5620.1	5635.9
7.5°	5503.3	5546.4	5597.4	5710.7	5747.0
10°	5434.2	5515.8	5668.8	5765.1	5727.7
12.5°	5350.3	5488.6	5693.7	5505.6	5418.3
15°	5252.9	5454.6	5507.9	5325.4	5328.8
17.5°	5138.4	5426.3	5261.9	5257.4	5224.5
20°	5014.9	5331.1	5113.5	5104.4	5069.3
22.5°	4882.3	5205.3	4982.0	4963.9	5059.1
25°	4738.4	5041.0	4810.9	4954.8	5035.3
27.5°	4558.2	4825.6	4668.1	4872.1	4973.0
30°	4375.7	4603.5	4521.9	4806.4	4985.4
32.5°	4204.6	4371.2	4401.8	4781.4	4810.9
35°	4042.5	4154.7	4217.0	4600.1	4756.5
37.5°	3864.6	3895.2	4060.6	4524.2	4674.9
40°	3683.3	3664.0	3929.2	4399.5	4608.0
42.5°	3488.3	3481.5	3789.8	4337.2	4441.4
45°	3303.6	3318.3	3591.5	4160.4	4315.6
47.5°	3114.3	3133.6	3403.3	3966.6	4159.2
50°	2894.5	2919.4	3235.6	3794.3	4042.5
52.5°	2656.5	2704.1	3072.4	3631.1	3881.6
55°	2433.2	2472.9	2865.0	3491.7	3769.4
57.5°	2229.2	2253.0	2650.8	3316.1	3525.7
60°	2028.6	2034.3	2449.1	3121.1	3321.7
62.5°	1798.6	1808.8	2241.7	2891.1	3159.7
65°	1540.2	1588.9	2018.4	2671.2	2913.7
67.5°	1298.8	1383.8	1790.6	2469.5	2596.4
70°	1040.4	1184.3	1567.4	2232.6	2322.1
72.5°	803.5	972.4	1338.4	1967.4	2093.2
75°	582.5	771.8	1125.4	1729.4	1838.2
77.5°	392.1	584.8	925.9	1466.5	1610.4
80°	234.6	427.3	748.0	1222.8	1384.9
82.5°	120.1	286.7	580.3	1025.6	1170.7
85°	52.1	181.3	438.6	851.1	976.9
87.5°	14.7	103.1	323.0	687.9	794.4
90°	1.1	54.4	230.1	539.5	635.8
92.5°	1.1	26.1	162.1	408.0	481.7
95°	1.1	13.6	100.9	295.8	361.5
97.5°	1.1	7.9	61.2	209.7	265.2
100°	1.1	6.8	36.3	139.4	189.3
102.5°	1.1	7.9	24.9	88.4	123.5
105°	1.1	7.9	20.4	57.8	81.6
107.5°	2.3	7.9	18.1	43.1	56.7
110°	1.1	6.8	19.3	32.9	44.2

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	2.3	5.7	18.1	27.2	32.9
115°	1.1	4.5	15.9	26.1	27.2
117.5°	2.3	3.4	12.5	26.1	27.2
120°	2.3	2.3	10.2	24.9	28.3
122.5°	2.3	2.3	7.9	22.7	27.2
125°	1.1	2.3	6.8	17.0	23.8
127.5°	2.3	2.3	5.7	13.6	18.1
130°	2.3	2.3	4.5	10.2	13.6
132.5°	2.3	2.3	3.4	7.9	10.2
135°	2.3	2.3	2.3	5.7	7.9
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)