

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: P517676

Luminaire Tested: HVL12-8-LD4-3HI-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: P517676
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL12-8-LD4-3HI-30-UNV-C-EDD
Description: 8 FOOT, 12 INCH WIDE, HVL LED LUMINAIRE, WITH 3000K, 80 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 24423.0 lumens
Efficiency: N/A
Efficacy: 94.4 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

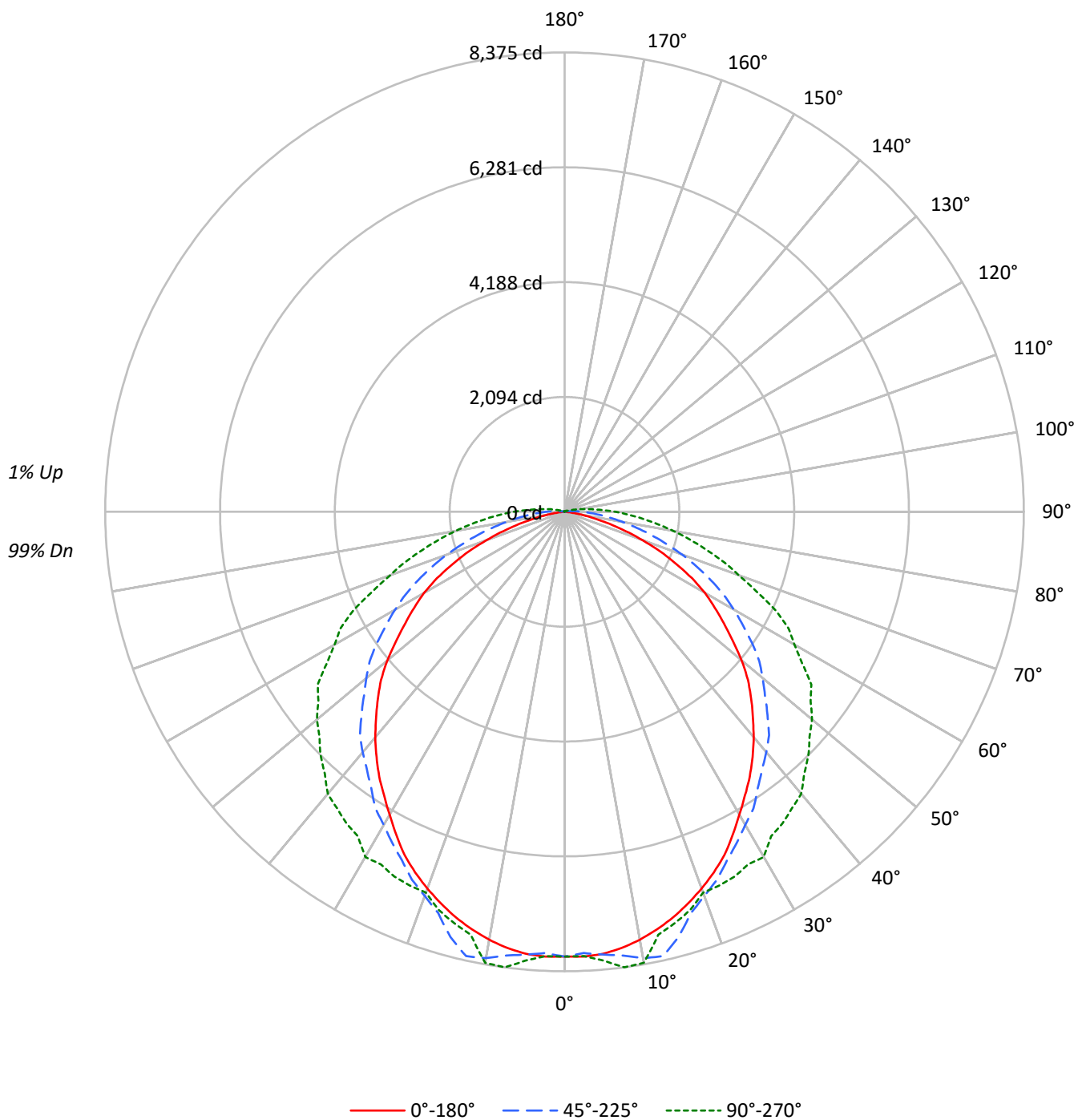
Input Watts (W): 258.6
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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°	10908	10908	10908
5°	10903	10813	10933
10°	10779	11028	11078
15°	10603	10796	10354
20°	10385	10178	9972
25°	10152	9802	10107
30°	9789	9509	10296
35°	9537	9236	10195
40°	9265	9050	10347
45°	8973	8792	10257
50°	8615	8523	10287
55°	8077	8234	10407
60°	7678	7810	10107
65°	6840	7291	9958
70°	5641	6586	9130
75°	4095	5703	8585
80°	2369	4820	8038
85°	948	3922	7564

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 55°

Luminance: 10407 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	779.2	3.2
10°-20°	2218.9	9.1
20°-30°	3301.5	13.5
30°-40°	3968.4	16.2
40°-50°	4177.0	17.1
50°-60°	3875.8	15.9
60°-70°	3064.5	12.5
70°-80°	1871.9	7.7
80°-90°	815.6	3.3
90°-100°	253.9	1.0
100°-110°	57.0	0.2
110°-120°	22.9	0.1
120°-130°	12.9	0.1
130°-140°	3.5	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°	6299.6	25.8
0°-40°	10268.0	42.0
0°-60°	18320.8	75.0
0°-90°	24072.8	98.6
90°-120°	333.9	1.4
90°-150°	350.3	1.4
90°-180°	350.0	1.4
0°-180°	24423.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	8107	8107	8107	8107	8107	
5°	8087	8071	8099	8190	8213	766
15°	7655	7949	8026	7760	7765	2156
25°	6905	7346	7010	7220	7338	3170
35°	5891	6054	6145	6703	6931	3682
45°	4814	4836	5234	6063	6289	3711
55°	3546	3604	4175	5088	5493	3186
65°	2244	2315	2941	3892	4246	2223
75°	849	1125	1640	2520	2679	926
85°	76	264	639	1240	1424	118
90°	2	79	335	786	926	4
95°	2	20	147	431	527	1
105°	2	12	30	84	119	2
115°	2	7	23	38	40	3
125°	2	3	10	25	35	3
135°	3	3	3	8	12	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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CATALOG NUMBER: HVL12-8-LD4-3HI-30-UNV-C-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	8107.1	8107.1	8107.1	8107.1	8107.1
2.5°	8117.0	8095.5	8051.0	8093.9	8105.5
5°	8087.3	8070.8	8098.9	8189.7	8212.8
7.5°	8019.6	8082.3	8156.7	8321.8	8374.6
10°	7918.8	8037.7	8260.7	8401.1	8346.6
12.5°	7796.6	7998.1	8297.0	8022.9	7895.7
15°	7654.6	7948.6	8026.2	7760.3	7765.3
17.5°	7487.8	7907.3	7667.8	7661.2	7613.3
20°	7307.8	7768.6	7451.5	7438.3	7387.1
22.5°	7114.6	7585.2	7259.9	7233.5	7372.2
25°	6904.8	7345.8	7010.5	7220.3	7337.5
27.5°	6642.2	7032.0	6802.4	7099.7	7246.7
30°	6376.4	6708.3	6589.4	7003.9	7264.9
32.5°	6127.0	6369.8	6414.3	6967.6	7010.5
35°	5890.8	6054.3	6145.2	6703.4	6931.3
37.5°	5631.5	5676.1	5917.2	6592.7	6812.3
40°	5367.3	5339.2	5725.7	6411.0	6714.9
42.5°	5083.3	5073.3	5522.5	6320.2	6472.1
45°	4814.1	4835.5	5233.5	6062.6	6288.8
47.5°	4538.3	4566.3	4959.4	5780.2	6060.9
50°	4217.9	4254.2	4715.0	5529.1	5890.8
52.5°	3871.1	3940.4	4477.2	5291.3	5656.3
55°	3545.7	3603.5	4174.9	5088.2	5492.8
57.5°	3248.5	3283.1	3862.8	4832.2	5137.7
60°	2956.1	2964.4	3568.8	4548.2	4840.5
62.5°	2620.9	2635.8	3266.6	4212.9	4604.3
65°	2244.4	2315.4	2941.3	3892.5	4246.0
67.5°	1892.6	2016.5	2609.3	3598.6	3783.5
70°	1516.1	1725.8	2284.0	3253.4	3383.9
72.5°	1170.9	1417.0	1950.4	2867.0	3050.3
75°	848.9	1124.7	1639.9	2520.2	2678.7
77.5°	571.4	852.2	1349.3	2137.0	2346.8
80°	341.9	622.6	1090.0	1781.9	2018.1
82.5°	175.1	417.8	845.6	1494.6	1706.0
85°	76.0	264.2	639.1	1240.3	1423.6
87.5°	21.5	150.3	470.7	1002.4	1157.7
90°	1.7	79.3	335.3	786.1	926.5
92.5°	1.7	38.0	236.2	594.5	701.9
95°	1.7	19.8	147.0	431.0	526.8
97.5°	1.7	11.6	89.2	305.5	386.4
100°	1.7	9.9	52.8	203.1	275.8
102.5°	1.7	11.6	36.3	128.8	180.0
105°	1.7	11.6	29.7	84.2	118.9
107.5°	3.3	11.6	26.4	62.8	82.6
110°	1.7	9.9	28.1	47.9	64.4

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	3.3	8.3	26.4	39.6	47.9
115°	1.7	6.6	23.1	38.0	39.6
117.5°	3.3	5.0	18.2	38.0	39.6
120°	3.3	3.3	14.9	36.3	41.3
122.5°	3.3	3.3	11.6	33.0	39.6
125°	1.7	3.3	9.9	24.8	34.7
127.5°	3.3	3.3	8.3	19.8	26.4
130°	3.3	3.3	6.6	14.9	19.8
132.5°	3.3	3.3	5.0	11.6	14.9
135°	3.3	3.3	3.3	8.3	11.6
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)