

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: P517696

Luminaire Tested: HVL12-8-LD4-3LO-35-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: P517696
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL12-8-LD4-3LO-35-UNV-C-EDD
Description: 8 FOOT, 12 INCH WIDE, HVL LED LUMINAIRE, WITH 3500K, 80 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 14930.0 lumens
Efficiency: N/A
Efficacy: 107.9 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

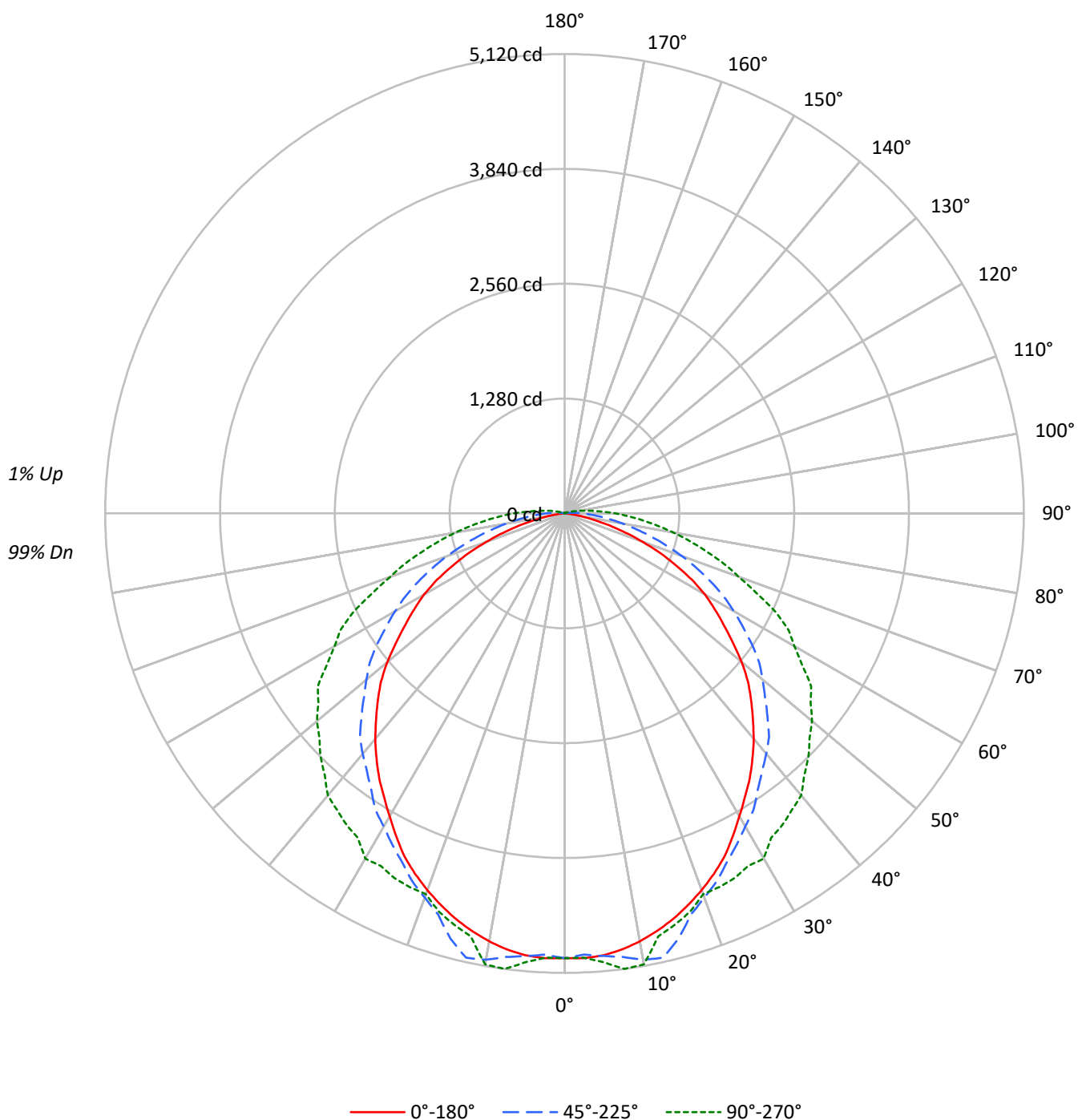
Input Watts (W): 138.4
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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°	6668	6668	6668
5°	6665	6610	6683
10°	6590	6742	6772
15°	6482	6600	6330
20°	6348	6222	6096
25°	6206	5992	6179
30°	5984	5813	6294
35°	5830	5646	6232
40°	5664	5532	6325
45°	5485	5375	6270
50°	5266	5210	6289
55°	4938	5034	6362
60°	4693	4774	6179
65°	4181	4457	6087
70°	3449	4026	5581
75°	2503	3486	5248
80°	1448	2947	4914
85°	579	2398	4624

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 55°

Luminance: 6362 cd/sqm

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CATALOG NUMBER: HVL12-8-LD4-3LO-35-UNV-C-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	476.3	3.2
10°-20°	1356.5	9.1
20°-30°	2018.3	13.5
30°-40°	2425.9	16.2
40°-50°	2553.4	17.1
50°-60°	2369.3	15.9
60°-70°	1873.3	12.5
70°-80°	1144.3	7.7
80°-90°	498.6	3.3
90°-100°	155.2	1.0
100°-110°	34.9	0.2
110°-120°	14.0	0.1
120°-130°	7.9	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°	3851.0	25.8
0°-40°	6276.9	42.0
0°-60°	11199.7	75.0
0°-90°	14715.9	98.6
90°-120°	204.1	1.4
90°-150°	214.1	1.4
90°-180°	214.0	1.4
0°-180°	14930.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4956	4956	4956	4956	4956	
5°	4944	4934	4951	5006	5021	469
15°	4679	4859	4906	4744	4747	1318
25°	4221	4490	4286	4414	4486	1938
35°	3601	3701	3757	4098	4237	2251
45°	2943	2956	3199	3706	3844	2269
55°	2168	2203	2552	3110	3358	1948
65°	1372	1415	1798	2380	2596	1359
75°	519	688	1002	1541	1638	566
85°	46	162	391	758	870	72
90°	1	48	205	481	566	2
95°	1	12	90	264	322	1
105°	1	7	18	52	73	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

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4955.9	4955.9	4955.9	4955.9	4955.9
2.5°	4962.0	4948.9	4921.6	4947.9	4954.9
5°	4943.8	4933.7	4950.9	5006.4	5020.6
7.5°	4902.4	4940.8	4986.2	5087.2	5119.5
10°	4840.9	4913.5	5049.8	5135.7	5102.3
12.5°	4766.1	4889.3	5072.0	4904.5	4826.7
15°	4679.3	4859.0	4906.5	4743.9	4747.0
17.5°	4577.4	4833.8	4687.4	4683.4	4654.1
20°	4467.3	4749.0	4555.2	4547.1	4515.8
22.5°	4349.2	4636.9	4438.0	4421.9	4506.7
25°	4221.0	4490.5	4285.6	4413.8	4485.5
27.5°	4060.5	4298.7	4158.4	4340.1	4430.0
30°	3897.9	4100.8	4028.2	4281.6	4441.1
32.5°	3745.5	3893.9	3921.1	4259.3	4285.6
35°	3601.1	3701.1	3756.6	4097.8	4237.1
37.5°	3442.6	3469.9	3617.3	4030.2	4164.5
40°	3281.1	3263.9	3500.2	3919.1	4104.9
42.5°	3107.4	3101.4	3376.0	3863.6	3956.5
45°	2942.9	2956.0	3199.3	3706.1	3844.4
47.5°	2774.3	2791.4	3031.7	3533.5	3705.1
50°	2578.4	2600.6	2882.3	3380.0	3601.1
52.5°	2366.4	2408.8	2736.9	3234.6	3457.8
55°	2167.5	2202.9	2552.2	3110.5	3357.8
57.5°	1985.8	2007.0	2361.4	2954.0	3140.8
60°	1807.1	1812.2	2181.7	2780.3	2959.0
62.5°	1602.2	1611.3	1996.9	2575.4	2814.7
65°	1372.0	1415.4	1798.0	2379.5	2595.6
67.5°	1157.0	1232.7	1595.1	2199.8	2312.9
70°	926.8	1055.0	1396.2	1988.8	2068.6
72.5°	715.8	866.2	1192.3	1752.6	1864.7
75°	518.9	687.5	1002.5	1540.6	1637.5
77.5°	349.3	520.9	824.8	1306.4	1434.6
80°	209.0	380.6	666.3	1089.3	1233.7
82.5°	107.0	255.4	516.9	913.7	1042.9
85°	46.4	161.5	390.7	758.2	870.2
87.5°	13.1	91.9	287.7	612.8	707.7
90°	1.0	48.5	204.9	480.6	566.4
92.5°	1.0	23.2	144.4	363.4	429.1
95°	1.0	12.1	89.9	263.5	322.1
97.5°	1.0	7.1	54.5	186.8	236.2
100°	1.0	6.1	32.3	124.2	168.6
102.5°	1.0	7.1	22.2	78.7	110.0
105°	1.0	7.1	18.2	51.5	72.7
107.5°	2.0	7.1	16.2	38.4	50.5
110°	1.0	6.1	17.2	29.3	39.4

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	2.0	5.0	16.2	24.2	29.3
115°	1.0	4.0	14.1	23.2	24.2
117.5°	2.0	3.0	11.1	23.2	24.2
120°	2.0	2.0	9.1	22.2	25.2
122.5°	2.0	2.0	7.1	20.2	24.2
125°	1.0	2.0	6.1	15.1	21.2
127.5°	2.0	2.0	5.0	12.1	16.2
130°	2.0	2.0	4.0	9.1	12.1
132.5°	2.0	2.0	3.0	7.1	9.1
135°	2.0	2.0	2.0	5.0	7.1
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)