

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: P517252

Luminaire Tested: HVL12-1-LD4-3HI-40-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: P517252
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL12-1-LD4-3HI-40-UNV-C-EDD
Description: 1 FOOT, 12 INCH WIDE, HVL LED LUMINAIRE, WITH 4000K, 80 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3734.0 lumens
Efficiency: N/A
Efficacy: 115.6 lumens/watt
Spacing Criteria (0/90/45): 1.18 / 1.32 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 1' x L: 1' x H: 0.17')
CIE Type: Direct

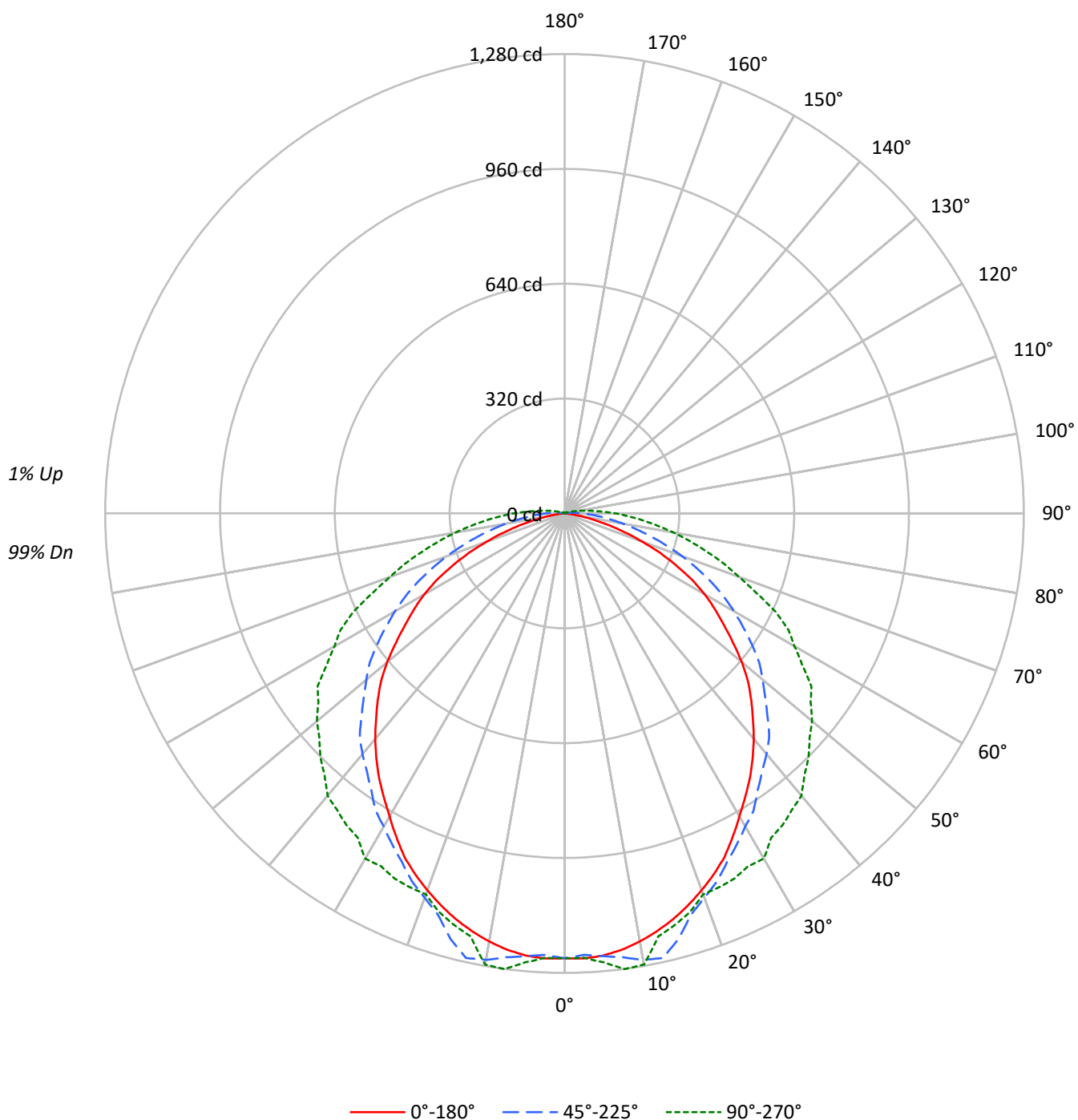
Input Watts (W): 32.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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°	13342	13342	13342
5°	13168	13108	13372
10°	12855	13254	13549
15°	12484	12862	12664
20°	12066	12018	12197
25°	11634	11469	12362
30°	11053	11021	12593
35°	10597	10596	12469
40°	10116	10269	12655
45°	9603	9856	12545
50°	9009	9424	12582
55°	8217	8961	12729
60°	7551	8340	12363
65°	6437	7608	12180
70°	5003	6670	11168
75°	3328	5546	10499
80°	1666	4419	9830
85°	493	3266	9250

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 55°

Luminance: 12729 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	119.1	3.2
10°-20°	339.2	9.1
20°-30°	504.8	13.5
30°-40°	606.7	16.2
40°-50°	638.6	17.1
50°-60°	592.6	15.9
60°-70°	468.5	12.5
70°-80°	286.2	7.7
80°-90°	124.7	3.3
90°-100°	38.8	1.0
100°-110°	8.7	0.2
110°-120°	3.5	0.1
120°-130°	2.0	0.1
130°-140°	0.5	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°	963.1	25.8
0°-40°	1569.9	42.0
0°-60°	2801.0	75.0
0°-90°	3680.4	98.6
90°-120°	51.1	1.4
90°-150°	53.6	1.4
90°-180°	54.0	1.4
0°-180°	3734.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1240	1240	1240	1240	1240	
5°	1236	1234	1238	1252	1256	117
15°	1170	1215	1227	1186	1187	330
25°	1056	1123	1072	1104	1122	485
35°	901	926	940	1025	1060	563
45°	736	739	800	927	962	567
55°	542	551	638	778	840	487
65°	343	354	450	595	649	340
75°	130	172	251	385	410	142
85°	12	40	98	190	218	18
90°	0	12	51	120	142	1
95°	0	3	22	66	80	0
105°	0	2	4	13	18	0
115°	0	1	4	6	6	0
125°	0	0	2	4	5	0
135°	0	0	0	1	2	0
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°	1239.5	1239.5	1239.5	1239.5	1239.5
2.5°	1241.0	1237.7	1230.9	1237.5	1239.2
5°	1236.5	1233.9	1238.2	1252.1	1255.6
7.5°	1226.1	1235.7	1247.1	1272.3	1280.4
10°	1210.7	1228.9	1263.0	1284.4	1276.1
12.5°	1192.0	1222.8	1268.5	1226.6	1207.2
15°	1170.3	1215.2	1227.1	1186.5	1187.2
17.5°	1144.8	1208.9	1172.3	1171.3	1164.0
20°	1117.3	1187.7	1139.2	1137.2	1129.4
22.5°	1087.7	1159.7	1110.0	1105.9	1127.1
25°	1055.7	1123.1	1071.8	1103.9	1121.8
27.5°	1015.5	1075.1	1040.0	1085.5	1107.9
30°	974.9	1025.6	1007.4	1070.8	1110.7
32.5°	936.7	973.9	980.7	1065.3	1071.8
35°	900.6	925.6	939.5	1024.9	1059.7
37.5°	861.0	867.8	904.7	1007.9	1041.5
40°	820.6	816.3	875.4	980.2	1026.6
42.5°	777.2	775.7	844.3	966.3	989.5
45°	736.0	739.3	800.1	926.9	961.5
47.5°	693.8	698.1	758.2	883.7	926.6
50°	644.9	650.4	720.9	845.3	900.6
52.5°	591.8	602.4	684.5	809.0	864.8
55°	542.1	550.9	638.3	777.9	839.8
57.5°	496.7	502.0	590.6	738.8	785.5
60°	452.0	453.2	545.6	695.4	740.1
62.5°	400.7	403.0	499.4	644.1	703.9
65°	343.1	354.0	449.7	595.1	649.2
67.5°	289.4	308.3	398.9	550.2	578.5
70°	231.8	263.9	349.2	497.4	517.4
72.5°	179.0	216.6	298.2	438.3	466.4
75°	129.8	171.9	250.7	385.3	409.5
77.5°	87.4	130.3	206.3	326.7	358.8
80°	52.3	95.2	166.6	272.4	308.5
82.5°	26.8	63.9	129.3	228.5	260.8
85°	11.6	40.4	97.7	189.6	217.6
87.5°	3.3	23.0	72.0	153.3	177.0
90°	0.3	12.1	51.3	120.2	141.6
92.5°	0.3	5.8	36.1	90.9	107.3
95°	0.3	3.0	22.5	65.9	80.5
97.5°	0.3	1.8	13.6	46.7	59.1
100°	0.3	1.5	8.1	31.1	42.2
102.5°	0.3	1.8	5.6	19.7	27.5
105°	0.3	1.8	4.5	12.9	18.2
107.5°	0.5	1.8	4.0	9.6	12.6
110°	0.3	1.5	4.3	7.3	9.8

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.5	1.3	4.0	6.1	7.3
115°	0.3	1.0	3.5	5.8	6.1
117.5°	0.5	0.8	2.8	5.8	6.1
120°	0.5	0.5	2.3	5.6	6.3
122.5°	0.5	0.5	1.8	5.0	6.1
125°	0.3	0.5	1.5	3.8	5.3
127.5°	0.5	0.5	1.3	3.0	4.0
130°	0.5	0.5	1.0	2.3	3.0
132.5°	0.5	0.5	0.8	1.8	2.3
135°	0.5	0.5	0.5	1.3	1.8
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)