

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: P517399

Luminaire Tested: HVL12-2-LD4-3HI-50-UNV-C-EDD-90

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: P517399
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL12-2-LD4-3HI-50-UNV-C-EDD-90
Description: 2 FOOT, 12 INCH WIDE, HVL LED LUMINAIRE, WITH 5000K, 90 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6608.0 lumens
Efficiency: N/A
Efficacy: 102.1 lumens/watt
Spacing Criteria (0/90/45): 1.18 / 1.32 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 1' x L: 2' x H: 0.17')
CIE Type: Direct

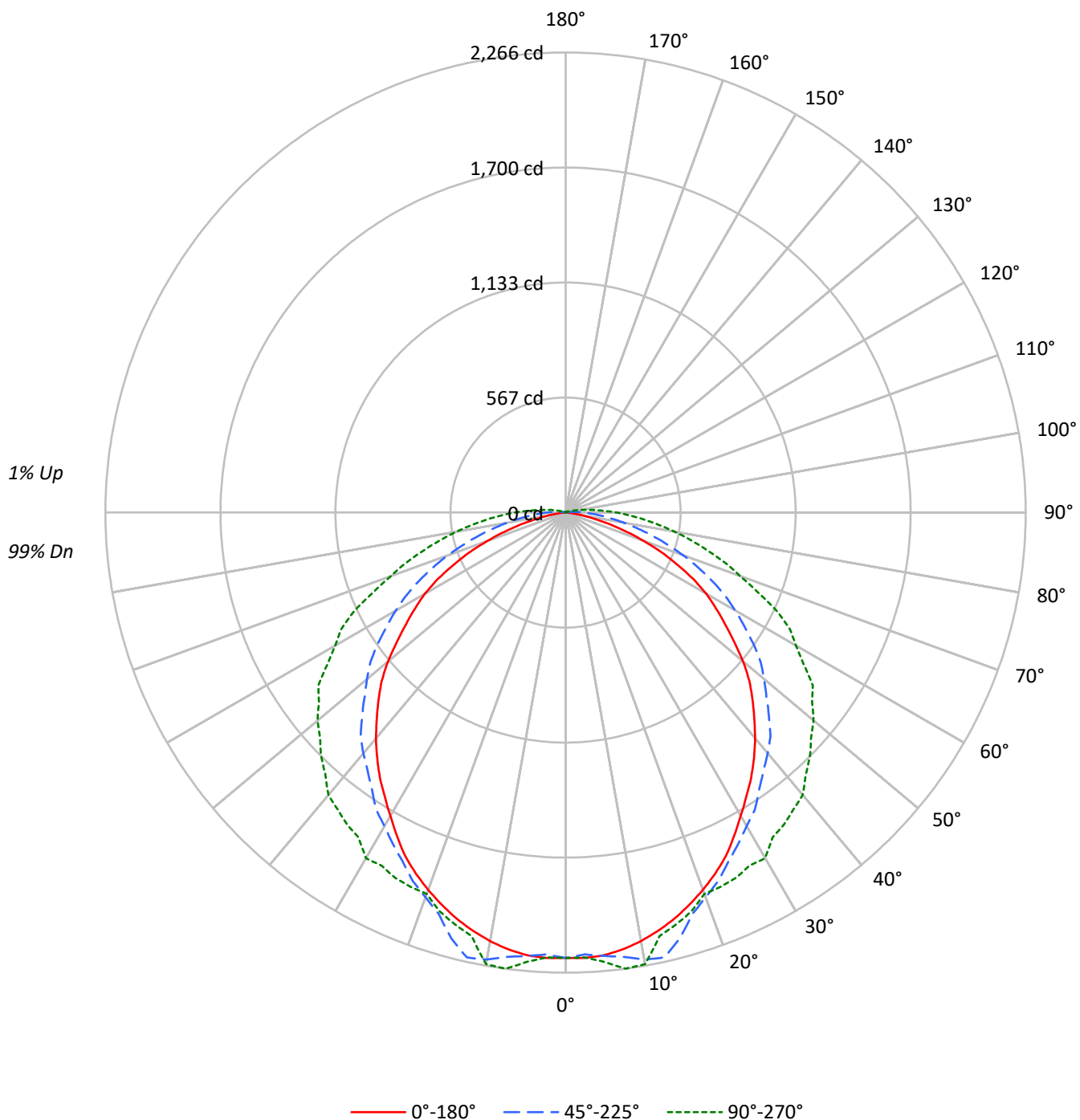
Input Watts (W): 64.7
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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°	11805	11805	11805
5°	11736	11658	11832
10°	11540	11845	11989
15°	11288	11552	11206
20°	10991	10849	10792
25°	10679	10406	10939
30°	10229	10054	11143
35°	9894	9721	11034
40°	9536	9478	11198
45°	9151	9158	11100
50°	8692	8822	11133
55°	8044	8462	11264
60°	7523	7957	10939
65°	6560	7348	10777
70°	5252	6545	9882
75°	3643	5559	9291
80°	1947	4564	8699
85°	651	3534	8187

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 55°

Luminance: 11264 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	210.8	3.2
10°-20°	600.4	9.1
20°-30°	893.3	13.5
30°-40°	1073.7	16.2
40°-50°	1130.1	17.1
50°-60°	1048.6	15.9
60°-70°	829.1	12.5
70°-80°	506.5	7.7
80°-90°	220.7	3.3
90°-100°	68.7	1.0
100°-110°	15.4	0.2
110°-120°	6.2	0.1
120°-130°	3.5	0.1
130°-140°	0.9	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°	1704.5	25.8
0°-40°	2778.2	42.0
0°-60°	4957.0	75.0
0°-90°	6513.2	98.6
90°-120°	90.3	1.4
90°-150°	94.7	1.4
90°-180°	95.0	1.4
0°-180°	6608.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2194	2194	2194	2194	2194	
5°	2188	2184	2191	2216	2222	207
15°	2071	2151	2172	2100	2101	583
25°	1868	1988	1897	1954	1985	858
35°	1594	1638	1663	1814	1875	996
45°	1302	1308	1416	1640	1702	1004
55°	959	975	1130	1377	1486	862
65°	607	626	796	1053	1149	601
75°	230	304	444	682	725	251
85°	21	72	173	336	385	32
90°	0	21	91	213	251	1
95°	0	5	40	117	142	0
105°	0	3	8	23	32	1
115°	0	2	6	10	11	1
125°	0	1	3	7	9	1
135°	1	1	1	2	3	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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CATALOG NUMBER: HVL12-2-LD4-3HI-50-UNV-C-EDD-90

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2193.5	2193.5	2193.5	2193.5	2193.5
2.5°	2196.2	2190.4	2178.3	2189.9	2193.0
5°	2188.1	2183.7	2191.3	2215.8	2222.1
7.5°	2169.8	2186.8	2206.9	2251.6	2265.9
10°	2142.6	2174.7	2235.1	2273.0	2258.3
12.5°	2109.5	2164.0	2244.9	2170.7	2136.3
15°	2071.1	2150.6	2171.6	2099.7	2101.0
17.5°	2025.9	2139.4	2074.6	2072.9	2059.9
20°	1977.2	2101.9	2016.1	2012.5	1998.7
22.5°	1925.0	2052.3	1964.3	1957.1	1994.7
25°	1868.2	1987.5	1896.8	1953.5	1985.3
27.5°	1797.2	1902.6	1840.5	1920.9	1960.7
30°	1725.2	1815.0	1782.9	1895.0	1965.6
32.5°	1657.7	1723.4	1735.5	1885.2	1896.8
35°	1593.8	1638.1	1662.7	1813.7	1875.4
37.5°	1523.7	1535.8	1601.0	1783.8	1843.2
40°	1452.2	1444.6	1549.2	1734.6	1816.8
42.5°	1375.3	1372.7	1494.2	1710.0	1751.1
45°	1302.5	1308.3	1416.0	1640.3	1701.5
47.5°	1227.9	1235.5	1341.8	1563.9	1639.9
50°	1141.2	1151.0	1275.7	1496.0	1593.8
52.5°	1047.4	1066.1	1211.4	1431.6	1530.4
55°	959.3	975.0	1129.6	1376.7	1486.2
57.5°	878.9	888.3	1045.1	1307.4	1390.1
60°	799.8	802.1	965.6	1230.6	1309.7
62.5°	709.1	713.1	883.8	1139.9	1245.8
65°	607.2	626.5	795.8	1053.2	1148.8
67.5°	512.1	545.6	706.0	973.6	1023.7
70°	410.2	466.9	618.0	880.3	915.6
72.5°	316.8	383.4	527.7	775.7	825.3
75°	229.7	304.3	443.7	681.9	724.8
77.5°	154.6	230.6	365.1	578.2	634.9
80°	92.5	168.5	294.9	482.1	546.0
82.5°	47.4	113.0	228.8	404.4	461.6
85°	20.6	71.5	172.9	335.6	385.2
87.5°	5.8	40.7	127.3	271.2	313.2
90°	0.4	21.4	90.7	212.7	250.7
92.5°	0.4	10.3	63.9	160.9	189.9
95°	0.4	5.4	39.8	116.6	142.5
97.5°	0.4	3.1	24.1	82.7	104.6
100°	0.4	2.7	14.3	55.0	74.6
102.5°	0.4	3.1	9.8	34.9	48.7
105°	0.4	3.1	8.0	22.8	32.2
107.5°	0.9	3.1	7.1	17.0	22.3
110°	0.4	2.7	7.6	13.0	17.4

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.9	2.2	7.1	10.7	13.0
115°	0.4	1.8	6.3	10.3	10.7
117.5°	0.9	1.3	4.9	10.3	10.7
120°	0.9	0.9	4.0	9.8	11.2
122.5°	0.9	0.9	3.1	8.9	10.7
125°	0.4	0.9	2.7	6.7	9.4
127.5°	0.9	0.9	2.2	5.4	7.1
130°	0.9	0.9	1.8	4.0	5.4
132.5°	0.9	0.9	1.3	3.1	4.0
135°	0.9	0.9	0.9	2.2	3.1
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)