

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: P517595

Luminaire Tested: HVL12-8-LD4-1LO-30-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: P517595
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL12-8-LD4-1LO-30-UNV-C-EDD-90
Description: 8 FOOT, 12 INCH WIDE, HVL LED LUMINAIRE, WITH 3000K, 90 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5676.0 lumens
Efficiency: N/A
Efficacy: 120.0 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

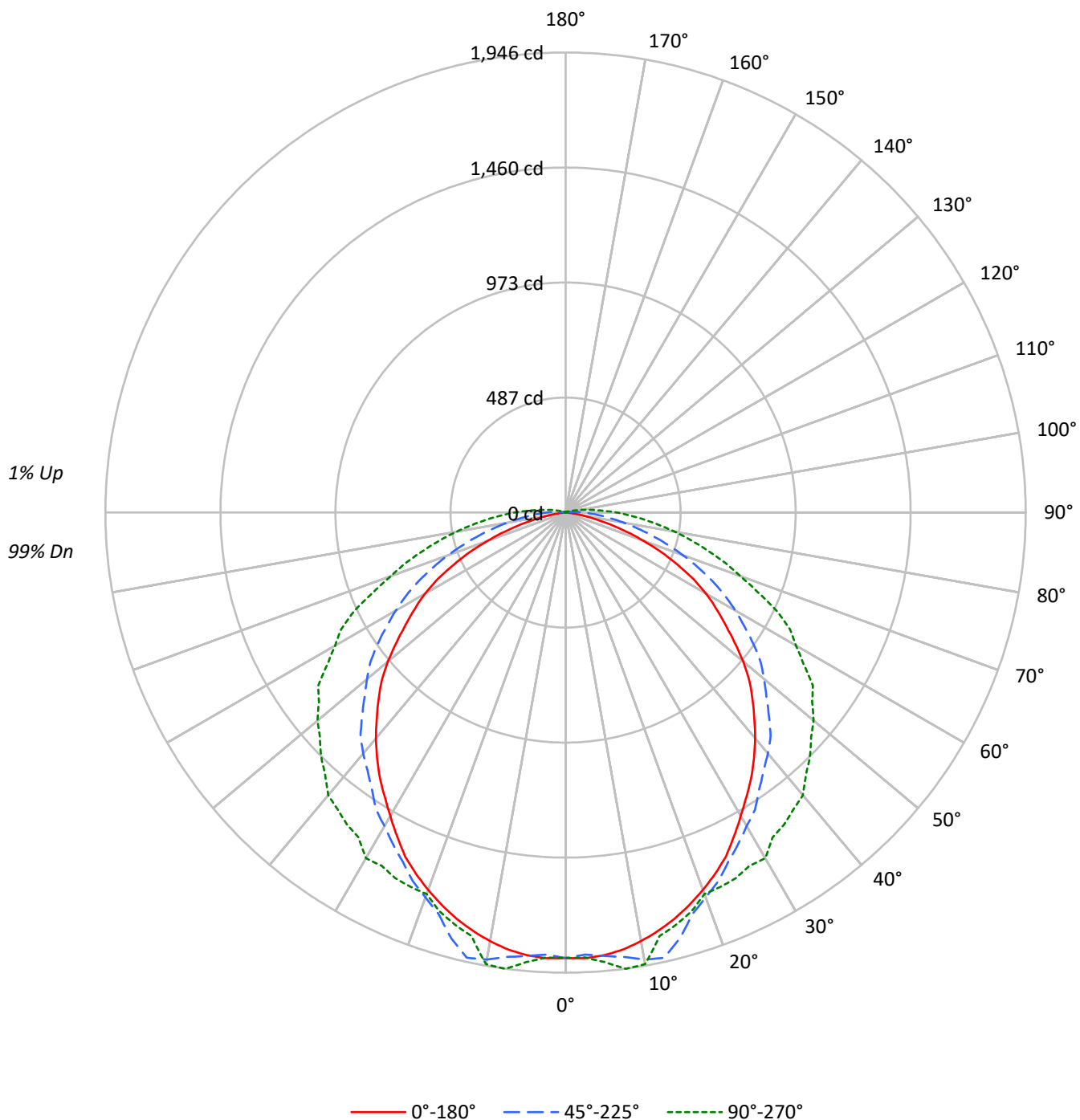
Input Watts (W): 47.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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	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°	2535	2535	2535
5°	2534	2513	2541
10°	2505	2563	2575
15°	2464	2509	2406
20°	2414	2365	2318
25°	2359	2278	2349
30°	2275	2210	2393
35°	2216	2147	2369
40°	2153	2103	2405
45°	2085	2043	2384
50°	2002	1981	2391
55°	1877	1914	2419
60°	1784	1815	2349
65°	1590	1694	2314
70°	1311	1531	2122
75°	952	1325	1995
80°	550	1120	1868
85°	221	911	1758

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 55°

Luminance: 2419 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	181.1	3.2
10°-20°	515.7	9.1
20°-30°	767.3	13.5
30°-40°	922.3	16.2
40°-50°	970.8	17.1
50°-60°	900.7	15.9
60°-70°	712.2	12.5
70°-80°	435.0	7.7
80°-90°	189.5	3.3
90°-100°	59.0	1.0
100°-110°	13.3	0.2
110°-120°	5.3	0.1
120°-130°	3.0	0.1
130°-140°	0.8	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°	1464.1	25.8
0°-40°	2386.3	42.0
0°-60°	4257.8	75.0
0°-90°	5594.6	98.6
90°-120°	77.6	1.4
90°-150°	81.4	1.4
90°-180°	81.0	1.4
0°-180°	5676.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1884	1884	1884	1884	1884	
5°	1880	1876	1882	1903	1909	178
15°	1779	1847	1865	1804	1805	501
25°	1605	1707	1629	1678	1705	737
35°	1369	1407	1428	1558	1611	856
45°	1119	1124	1216	1409	1462	862
55°	824	838	970	1182	1277	740
65°	522	538	684	905	987	517
75°	197	261	381	586	622	215
85°	18	61	148	288	331	27
90°	0	18	78	183	215	1
95°	0	5	34	100	122	0
105°	0	3	7	20	28	1
115°	0	2	5	9	9	1
125°	0	1	2	6	8	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

TEST NUMBER: P517595

CATALOG NUMBER: HVL12-8-LD4-1LO-30-UNV-C-EDD-90

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1884.1	1884.1	1884.1	1884.1	1884.1
2.5°	1886.4	1881.4	1871.1	1881.1	1883.7
5°	1879.5	1875.7	1882.2	1903.3	1908.7
7.5°	1863.8	1878.4	1895.6	1934.0	1946.3
10°	1840.4	1868.0	1919.8	1952.4	1939.8
12.5°	1812.0	1858.8	1928.3	1864.5	1835.0
15°	1779.0	1847.3	1865.3	1803.5	1804.7
17.5°	1740.2	1837.7	1782.0	1780.5	1769.4
20°	1698.4	1805.4	1731.8	1728.7	1716.8
22.5°	1653.5	1762.8	1687.2	1681.1	1713.3
25°	1604.7	1707.2	1629.3	1678.0	1705.3
27.5°	1543.7	1634.3	1580.9	1650.0	1684.2
30°	1481.9	1559.0	1531.4	1627.7	1688.4
32.5°	1423.9	1480.4	1490.7	1619.3	1629.3
35°	1369.1	1407.0	1428.2	1557.9	1610.9
37.5°	1308.8	1319.2	1375.2	1532.2	1583.2
40°	1247.4	1240.9	1330.7	1490.0	1560.6
42.5°	1181.4	1179.1	1283.5	1468.8	1504.2
45°	1118.8	1123.8	1216.3	1409.0	1461.5
47.5°	1054.7	1061.2	1152.6	1343.3	1408.6
50°	980.3	988.7	1095.8	1285.0	1369.1
52.5°	899.7	915.8	1040.5	1229.7	1314.5
55°	824.0	837.5	970.3	1182.5	1276.6
57.5°	755.0	763.0	897.7	1123.0	1194.0
60°	687.0	688.9	829.4	1057.0	1124.9
62.5°	609.1	612.6	759.2	979.1	1070.1
65°	521.6	538.1	683.6	904.6	986.8
67.5°	439.8	468.6	606.4	836.3	879.3
70°	352.3	401.1	530.8	756.1	786.4
72.5°	272.1	329.3	453.3	666.3	708.9
75°	197.3	261.4	381.1	585.7	622.5
77.5°	132.8	198.0	313.6	496.7	545.4
80°	79.4	144.7	253.3	414.1	469.0
82.5°	40.7	97.1	196.5	347.3	396.5
85°	17.7	61.4	148.5	288.2	330.8
87.5°	5.0	34.9	109.4	233.0	269.1
90°	0.4	18.4	77.9	182.7	215.3
92.5°	0.4	8.8	54.9	138.2	163.1
95°	0.4	4.6	34.2	100.2	122.4
97.5°	0.4	2.7	20.7	71.0	89.8
100°	0.4	2.3	12.3	47.2	64.1
102.5°	0.4	2.7	8.4	29.9	41.8
105°	0.4	2.7	6.9	19.6	27.6
107.5°	0.8	2.7	6.1	14.6	19.2
110°	0.4	2.3	6.5	11.1	15.0

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.8	1.9	6.1	9.2	11.1
115°	0.4	1.5	5.4	8.8	9.2
117.5°	0.8	1.2	4.2	8.8	9.2
120°	0.8	0.8	3.5	8.4	9.6
122.5°	0.8	0.8	2.7	7.7	9.2
125°	0.4	0.8	2.3	5.8	8.1
127.5°	0.8	0.8	1.9	4.6	6.1
130°	0.8	0.8	1.5	3.5	4.6
132.5°	0.8	0.8	1.2	2.7	3.5
135°	0.8	0.8	0.8	1.9	2.7
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)