

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: P517607

Luminaire Tested: HVL12-8-LD4-1LO-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: P517607
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL12-8-LD4-1LO-50-UNV-C-EDD-90
Description: 8 FOOT, 12 INCH WIDE, HVL LED LUMINAIRE, WITH 5000K, 90 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6119.0 lumens
Efficiency: N/A
Efficacy: 129.4 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

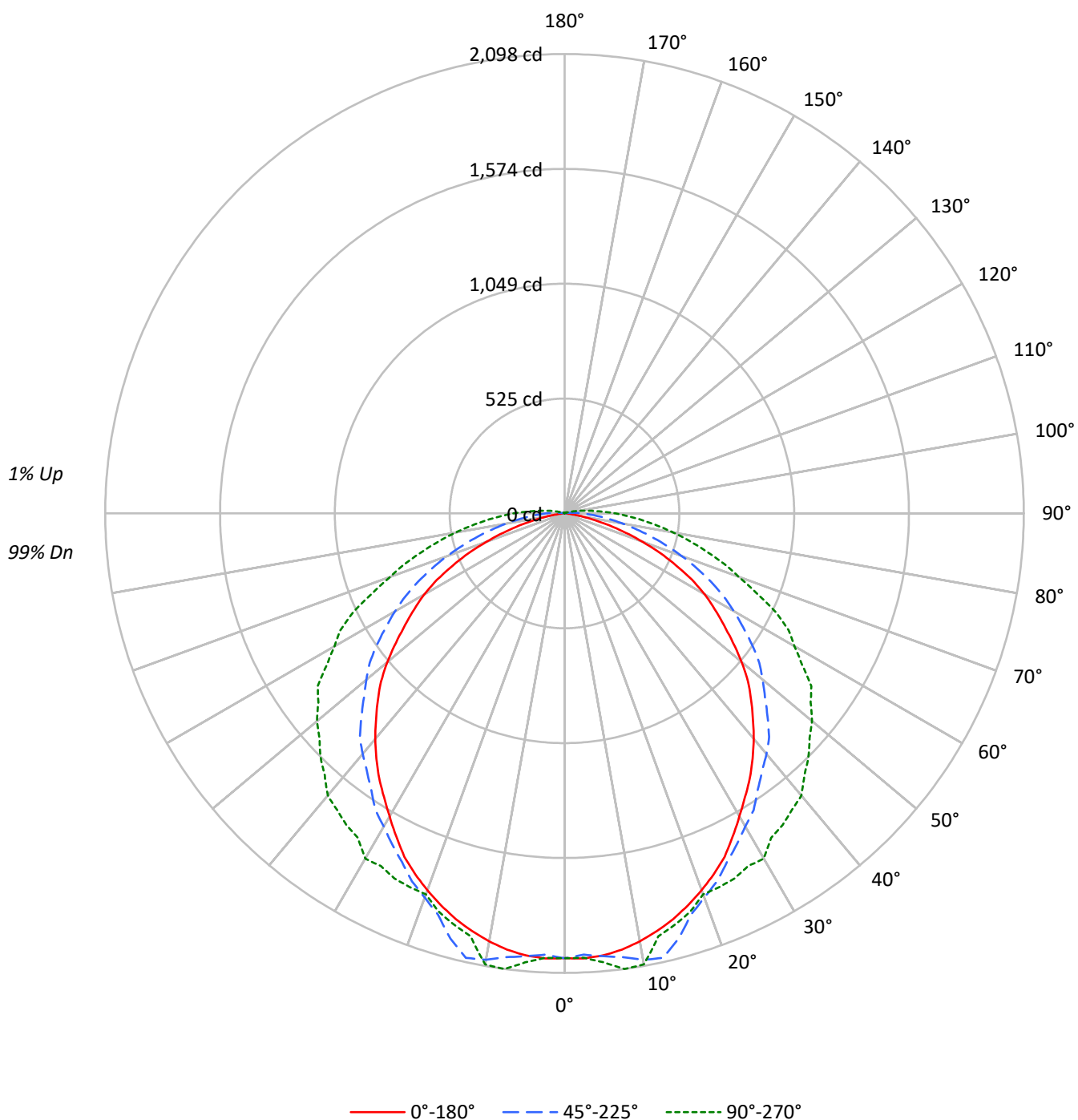
Input Watts (W): 47.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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°	2733	2733	2733
5°	2732	2709	2739
10°	2701	2763	2776
15°	2657	2705	2594
20°	2602	2550	2498
25°	2544	2456	2532
30°	2452	2382	2580
35°	2389	2314	2554
40°	2321	2267	2592
45°	2248	2203	2570
50°	2159	2135	2577
55°	2024	2063	2608
60°	1924	1957	2532
65°	1714	1827	2495
70°	1413	1650	2288
75°	1026	1429	2151
80°	593	1208	2014
85°	237	982	1895

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 55°

Luminance: 2608 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	195.2	3.2
10°-20°	555.9	9.1
20°-30°	827.2	13.5
30°-40°	994.3	16.2
40°-50°	1046.5	17.1
50°-60°	971.0	15.9
60°-70°	767.8	12.5
70°-80°	469.0	7.7
80°-90°	204.3	3.3
90°-100°	63.6	1.0
100°-110°	14.3	0.2
110°-120°	5.7	0.1
120°-130°	3.2	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°	1578.3	25.8
0°-40°	2572.6	42.0
0°-60°	4590.1	75.0
0°-90°	6031.2	98.6
90°-120°	83.6	1.4
90°-150°	87.7	1.4
90°-180°	88.0	1.4
0°-180°	6119.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2031	2031	2031	2031	2031	
5°	2026	2022	2029	2052	2058	192
15°	1918	1992	2011	1944	1946	540
25°	1730	1840	1756	1809	1838	794
35°	1476	1517	1540	1680	1737	922
45°	1206	1212	1311	1519	1576	930
55°	888	903	1046	1275	1376	798
65°	562	580	737	975	1064	557
75°	213	282	411	631	671	232
85°	19	66	160	311	357	29
90°	0	20	84	197	232	1
95°	0	5	37	108	132	0
105°	0	3	7	21	30	1
115°	0	2	6	10	10	1
125°	0	1	2	6	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

TEST NUMBER: P517607

CATALOG NUMBER: HVL12-8-LD4-1LO-50-UNV-C-EDD-90

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2031.2	2031.2	2031.2	2031.2	2031.2
2.5°	2033.7	2028.3	2017.1	2027.9	2030.8
5°	2026.2	2022.1	2029.1	2051.9	2057.7
7.5°	2009.2	2025.0	2043.6	2085.0	2098.2
10°	1984.0	2013.8	2069.7	2104.8	2091.2
12.5°	1953.4	2003.9	2078.8	2010.1	1978.2
15°	1917.8	1991.5	2010.9	1944.3	1945.5
17.5°	1876.0	1981.1	1921.1	1919.5	1907.5
20°	1830.9	1946.4	1866.9	1863.6	1850.8
22.5°	1782.5	1900.4	1818.9	1812.3	1847.0
25°	1730.0	1840.4	1756.4	1809.0	1838.4
27.5°	1664.2	1761.8	1704.3	1778.8	1815.6
30°	1597.5	1680.7	1650.9	1754.8	1820.2
32.5°	1535.1	1595.9	1607.1	1745.7	1756.4
35°	1475.9	1516.9	1539.6	1679.5	1736.6
37.5°	1410.9	1422.1	1482.5	1651.8	1706.8
40°	1344.7	1337.7	1434.5	1606.2	1682.4
42.5°	1273.6	1271.1	1383.6	1583.5	1621.5
45°	1206.1	1211.5	1311.2	1518.9	1575.6
47.5°	1137.0	1144.1	1242.5	1448.2	1518.5
50°	1056.8	1065.9	1181.3	1385.3	1475.9
52.5°	969.9	987.2	1121.7	1325.7	1417.1
55°	888.4	902.8	1046.0	1274.8	1376.2
57.5°	813.9	822.6	967.8	1210.7	1287.2
60°	740.6	742.7	894.1	1139.5	1212.7
62.5°	656.6	660.4	818.4	1055.5	1153.6
65°	562.3	580.1	736.9	975.2	1063.8
67.5°	474.2	505.2	653.7	901.6	947.9
70°	379.8	432.4	572.2	815.1	847.8
72.5°	293.4	355.0	488.7	718.3	764.2
75°	212.7	281.8	410.9	631.4	671.1
77.5°	143.2	213.5	338.0	535.4	588.0
80°	85.6	156.0	273.1	446.5	505.6
82.5°	43.9	104.7	211.8	374.5	427.4
85°	19.0	66.2	160.1	310.7	356.7
87.5°	5.4	37.7	117.9	251.2	290.0
90°	0.4	19.9	84.0	197.0	232.1
92.5°	0.4	9.5	59.2	149.0	175.9
95°	0.4	5.0	36.8	108.0	132.0
97.5°	0.4	2.9	22.3	76.5	96.8
100°	0.4	2.5	13.2	50.9	69.1
102.5°	0.4	2.9	9.1	32.3	45.1
105°	0.4	2.9	7.4	21.1	29.8
107.5°	0.8	2.9	6.6	15.7	20.7
110°	0.4	2.5	7.0	12.0	16.1

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CATALOG NUMBER: HVL12-8-LD4-1LO-50-UNV-C-EDD-90

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.8	2.1	6.6	9.9	12.0
115°	0.4	1.7	5.8	9.5	9.9
117.5°	0.8	1.2	4.6	9.5	9.9
120°	0.8	0.8	3.7	9.1	10.3
122.5°	0.8	0.8	2.9	8.3	9.9
125°	0.4	0.8	2.5	6.2	8.7
127.5°	0.8	0.8	2.1	5.0	6.6
130°	0.8	0.8	1.7	3.7	5.0
132.5°	0.8	0.8	1.2	2.9	3.7
135°	0.8	0.8	0.8	2.1	2.9
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)