

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: P517596

Luminaire Tested: HVL12-8-LD4-1LO-30-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: P517596
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
Description: 8 FOOT, 12 INCH WIDE, HVL LED LUMINAIRE, WITH 3000K, 80 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4919.0 lumens
Efficiency: N/A
Efficacy: 104.0 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

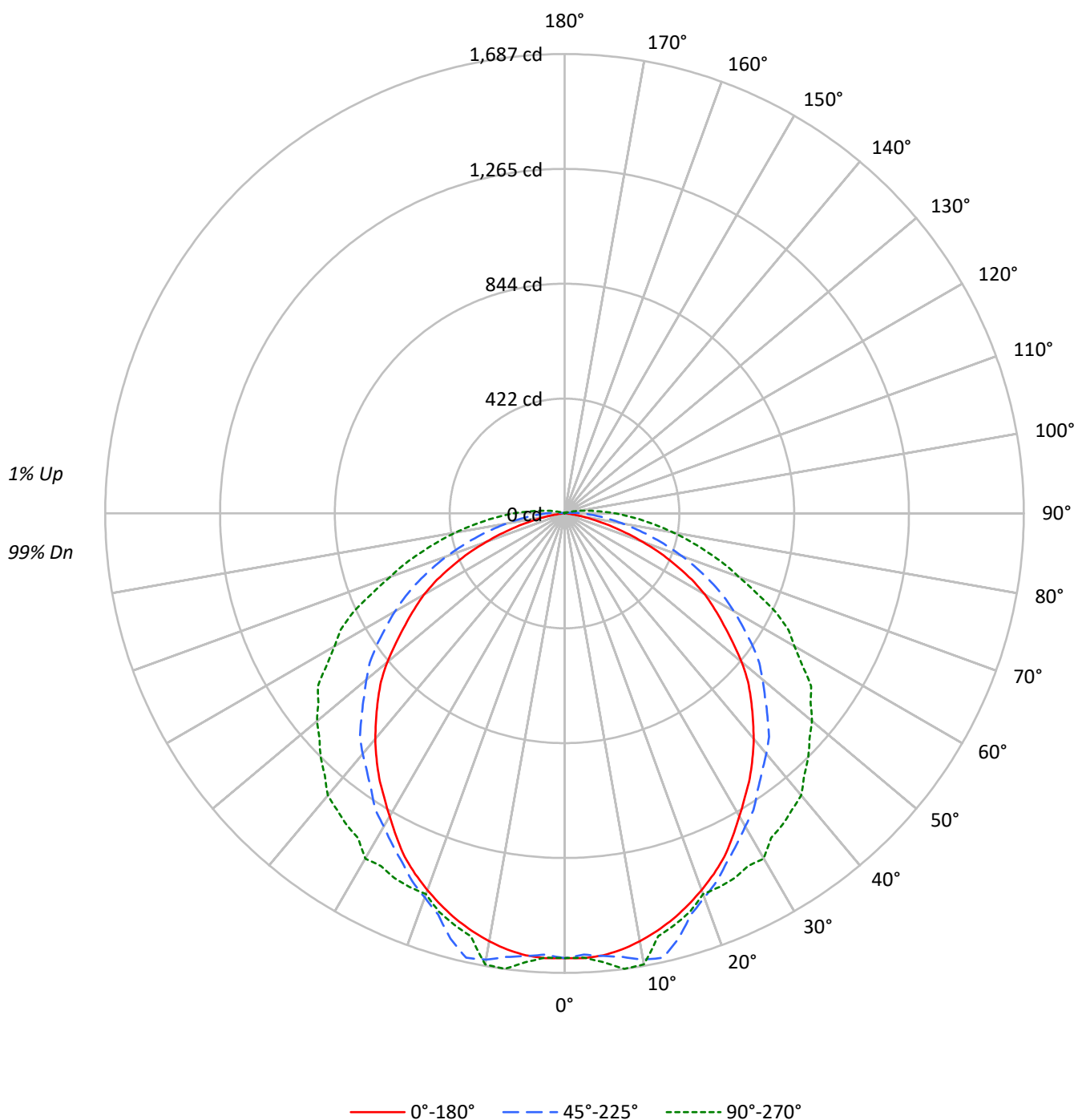
Input Watts (W): 47.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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°	2197	2197	2197
5°	2196	2178	2202
10°	2171	2221	2231
15°	2136	2174	2085
20°	2092	2050	2008
25°	2045	1974	2036
30°	1972	1915	2074
35°	1921	1860	2053
40°	1866	1823	2084
45°	1807	1771	2066
50°	1735	1716	2072
55°	1627	1658	2096
60°	1546	1573	2036
65°	1377	1468	2006
70°	1136	1326	1839
75°	825	1149	1729
80°	477	971	1619
85°	191	790	1523

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 55°

Luminance: 2096 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	156.9	3.2
10°-20°	446.9	9.1
20°-30°	665.0	13.5
30°-40°	799.3	16.2
40°-50°	841.3	17.1
50°-60°	780.6	15.9
60°-70°	617.2	12.5
70°-80°	377.0	7.7
80°-90°	164.3	3.3
90°-100°	51.1	1.0
100°-110°	11.5	0.2
110°-120°	4.6	0.1
120°-130°	2.6	0.1
130°-140°	0.7	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°	1268.8	25.8
0°-40°	2068.1	42.0
0°-60°	3690.0	75.0
0°-90°	4848.4	98.6
90°-120°	67.2	1.4
90°-150°	70.6	1.4
90°-180°	71.0	1.4
0°-180°	4919.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1633	1633	1633	1633	1633	
5°	1629	1626	1631	1650	1654	154
15°	1542	1601	1616	1563	1564	434
25°	1391	1480	1412	1454	1478	638
35°	1186	1219	1238	1350	1396	742
45°	970	974	1054	1221	1267	747
55°	714	726	841	1025	1106	642
65°	452	466	592	784	855	448
75°	171	226	330	508	540	187
85°	15	53	129	250	287	24
90°	0	16	68	158	187	1
95°	0	4	30	87	106	0
105°	0	2	6	17	24	0
115°	0	1	5	8	8	1
125°	0	1	2	5	7	1
135°	1	1	1	2	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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CATALOG NUMBER: HVL12-8-LD4-1LO-30-UNV-C-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1632.8	1632.8	1632.8	1632.8	1632.8
2.5°	1634.8	1630.5	1621.5	1630.2	1632.5
5°	1628.8	1625.5	1631.2	1649.5	1654.1
7.5°	1615.2	1627.9	1642.8	1676.1	1686.7
10°	1594.9	1618.9	1663.8	1692.0	1681.1
12.5°	1570.3	1610.9	1671.1	1615.9	1590.3
15°	1541.7	1600.9	1616.5	1563.0	1564.0
17.5°	1508.1	1592.6	1544.4	1543.0	1533.4
20°	1471.9	1564.7	1500.8	1498.1	1487.8
22.5°	1432.9	1527.7	1462.2	1456.9	1484.8
25°	1390.7	1479.5	1412.0	1454.2	1477.8
27.5°	1337.8	1416.3	1370.1	1429.9	1459.5
30°	1284.3	1351.1	1327.2	1410.6	1463.2
32.5°	1234.0	1282.9	1291.9	1403.3	1412.0
35°	1186.5	1219.4	1237.7	1350.1	1396.0
37.5°	1134.2	1143.2	1191.8	1327.8	1372.1
40°	1081.0	1075.4	1153.2	1291.2	1352.4
42.5°	1023.8	1021.8	1112.3	1272.9	1303.5
45°	969.6	973.9	1054.1	1221.1	1266.6
47.5°	914.0	919.7	998.9	1164.2	1220.7
50°	849.5	856.8	949.6	1113.6	1186.5
52.5°	779.7	793.6	901.7	1065.7	1139.2
55°	714.1	725.8	840.9	1024.8	1106.3
57.5°	654.3	661.3	778.0	973.3	1034.8
60°	595.4	597.1	718.8	916.0	974.9
62.5°	527.9	530.9	657.9	848.5	927.3
65°	452.0	466.3	592.4	784.0	855.2
67.5°	381.2	406.1	525.5	724.8	762.0
70°	305.3	347.6	460.0	655.3	681.5
72.5°	235.8	285.4	392.8	577.4	614.4
75°	171.0	226.5	330.3	507.6	539.5
77.5°	115.1	171.6	271.8	430.4	472.7
80°	68.9	125.4	219.5	358.9	406.5
82.5°	35.3	84.2	170.3	301.0	343.6
85°	15.3	53.2	128.7	249.8	286.7
87.5°	4.3	30.3	94.8	201.9	233.2
90°	0.3	16.0	67.5	158.3	186.6
92.5°	0.3	7.7	47.6	119.7	141.4
95°	0.3	4.0	29.6	86.8	106.1
97.5°	0.3	2.3	18.0	61.5	77.8
100°	0.3	2.0	10.6	40.9	55.5
102.5°	0.3	2.3	7.3	25.9	36.3
105°	0.3	2.3	6.0	17.0	23.9
107.5°	0.7	2.3	5.3	12.6	16.6
110°	0.3	2.0	5.7	9.6	13.0

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

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.7	1.7	5.3	8.0	9.6
115°	0.3	1.3	4.7	7.7	8.0
117.5°	0.7	1.0	3.7	7.7	8.0
120°	0.7	0.7	3.0	7.3	8.3
122.5°	0.7	0.7	2.3	6.7	8.0
125°	0.3	0.7	2.0	5.0	7.0
127.5°	0.7	0.7	1.7	4.0	5.3
130°	0.7	0.7	1.3	3.0	4.0
132.5°	0.7	0.7	1.0	2.3	3.0
135°	0.7	0.7	0.7	1.7	2.3
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)