

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: P517600

Luminaire Tested: HVL12-8-LD4-1LO-35-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: P517600
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL12-8-LD4-1LO-35-UNV-C-EDD
Description: 8 FOOT, 12 INCH WIDE, HVL LED LUMINAIRE, WITH 3500K, 80 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4985.0 lumens
Efficiency: N/A
Efficacy: 105.4 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

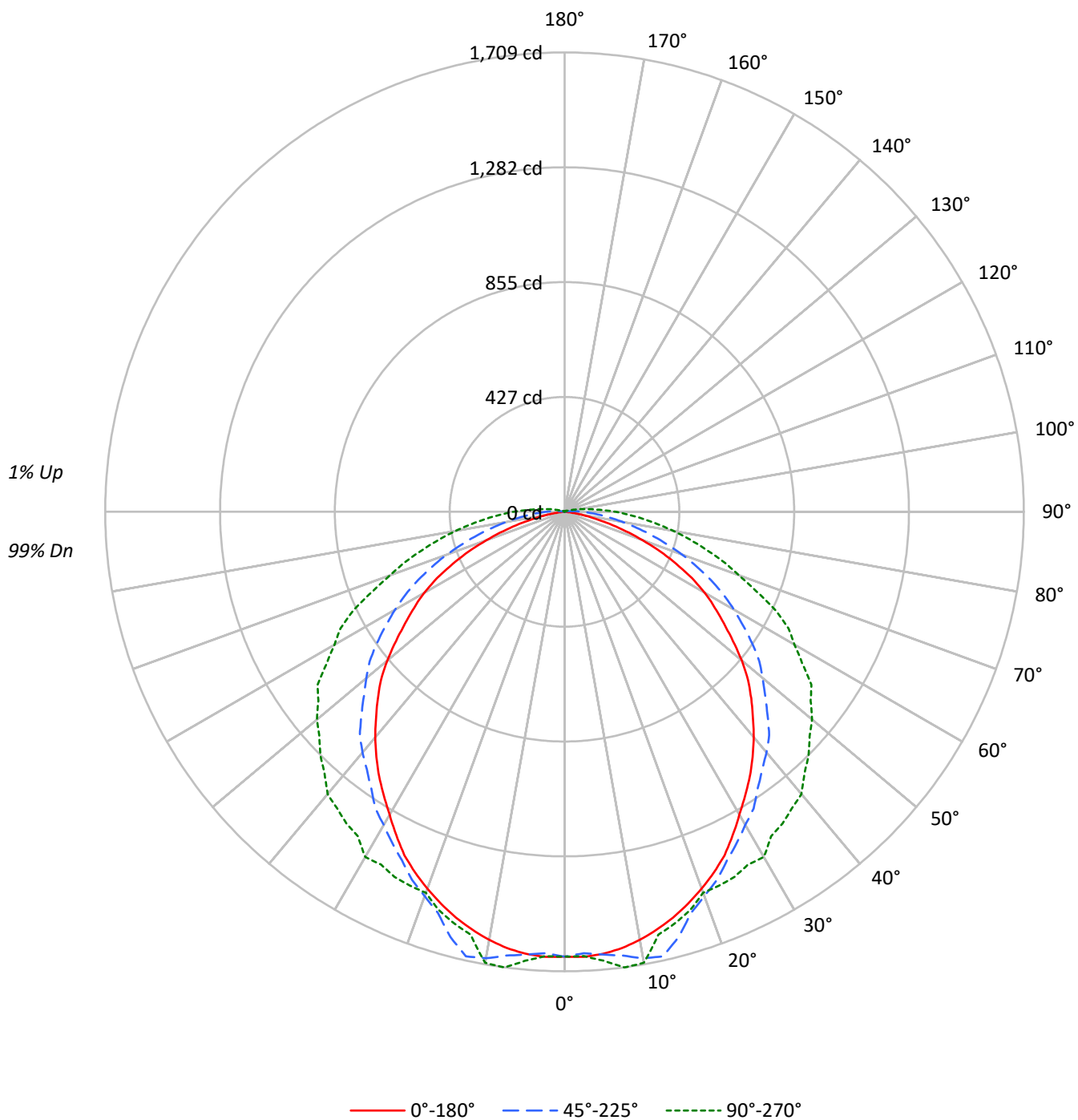
Input Watts (W): 47.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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°	2226	2226	2226
5°	2225	2207	2232
10°	2200	2251	2261
15°	2164	2204	2113
20°	2120	2077	2035
25°	2072	2001	2063
30°	1998	1941	2101
35°	1947	1885	2081
40°	1891	1847	2112
45°	1832	1795	2093
50°	1758	1740	2100
55°	1649	1681	2124
60°	1567	1594	2063
65°	1396	1488	2032
70°	1151	1344	1864
75°	836	1164	1752
80°	484	984	1641
85°	193	801	1544

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 55°

Luminance: 2124 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	159.0	3.2
10°-20°	452.9	9.1
20°-30°	673.9	13.5
30°-40°	810.0	16.2
40°-50°	852.6	17.1
50°-60°	791.1	15.9
60°-70°	625.5	12.5
70°-80°	382.1	7.7
80°-90°	166.5	3.3
90°-100°	51.8	1.0
100°-110°	11.6	0.2
110°-120°	4.7	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°	1285.8	25.8
0°-40°	2095.8	42.0
0°-60°	3739.5	75.0
0°-90°	4913.5	98.6
90°-120°	68.2	1.4
90°-150°	71.5	1.4
90°-180°	72.0	1.4
0°-180°	4985.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1655	1655	1655	1655	1655	
5°	1651	1647	1653	1672	1676	156
15°	1562	1622	1638	1584	1585	440
25°	1409	1499	1431	1474	1498	647
35°	1202	1236	1254	1368	1415	751
45°	983	987	1068	1237	1284	757
55°	724	736	852	1039	1121	650
65°	458	473	600	794	867	454
75°	173	230	335	514	547	189
85°	16	54	130	253	291	24
90°	0	16	68	160	189	1
95°	0	4	30	88	108	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-35-UNV-C-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1654.7	1654.7	1654.7	1654.7	1654.7
2.5°	1656.8	1652.4	1643.3	1652.1	1654.4
5°	1650.7	1647.3	1653.1	1671.6	1676.3
7.5°	1636.9	1649.7	1664.9	1698.6	1709.4
10°	1616.3	1640.6	1686.1	1714.7	1703.6
12.5°	1591.4	1632.5	1693.5	1637.6	1611.6
15°	1562.4	1622.4	1638.2	1584.0	1585.0
17.5°	1528.3	1614.0	1565.1	1563.7	1554.0
20°	1491.6	1585.6	1520.9	1518.2	1507.8
22.5°	1452.2	1548.2	1481.8	1476.4	1504.7
25°	1409.4	1499.4	1430.9	1473.7	1497.7
27.5°	1355.8	1435.3	1388.5	1449.1	1479.1
30°	1301.5	1369.2	1345.0	1429.6	1482.8
32.5°	1250.6	1300.1	1309.2	1422.2	1430.9
35°	1202.4	1235.8	1254.3	1368.2	1414.7
37.5°	1149.5	1158.6	1207.8	1345.6	1390.5
40°	1095.5	1089.8	1168.7	1308.6	1370.6
42.5°	1037.5	1035.5	1127.2	1290.0	1321.0
45°	982.6	987.0	1068.2	1237.4	1283.6
47.5°	926.3	932.0	1012.3	1179.8	1237.1
50°	860.9	868.3	962.4	1128.6	1202.4
52.5°	790.1	804.3	913.8	1080.0	1154.5
55°	723.7	735.5	852.2	1038.6	1121.1
57.5°	663.0	670.1	788.4	986.3	1048.7
60°	603.4	605.1	728.4	928.3	988.0
62.5°	535.0	538.0	666.8	859.9	939.8
65°	458.1	472.6	600.3	794.5	866.6
67.5°	386.3	411.6	532.6	734.5	772.3
70°	309.4	352.3	466.2	664.1	690.7
72.5°	239.0	289.2	398.1	585.2	622.6
75°	173.3	229.6	334.7	514.4	546.8
77.5°	116.6	173.9	275.4	436.2	479.0
80°	69.8	127.1	222.5	363.7	411.9
82.5°	35.7	85.3	172.6	305.1	348.2
85°	15.5	53.9	130.5	253.2	290.6
87.5°	4.4	30.7	96.1	204.6	236.3
90°	0.3	16.2	68.4	160.5	189.1
92.5°	0.3	7.8	48.2	121.4	143.3
95°	0.3	4.0	30.0	88.0	107.5
97.5°	0.3	2.4	18.2	62.4	78.9
100°	0.3	2.0	10.8	41.5	56.3
102.5°	0.3	2.4	7.4	26.3	36.7
105°	0.3	2.4	6.1	17.2	24.3
107.5°	0.7	2.4	5.4	12.8	16.9
110°	0.3	2.0	5.7	9.8	13.1

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CATALOG NUMBER: HVL12-8-LD4-1LO-35-UNV-C-EDD

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.7	1.7	5.4	8.1	9.8
115°	0.3	1.3	4.7	7.8	8.1
117.5°	0.7	1.0	3.7	7.8	8.1
120°	0.7	0.7	3.0	7.4	8.4
122.5°	0.7	0.7	2.4	6.7	8.1
125°	0.3	0.7	2.0	5.1	7.1
127.5°	0.7	0.7	1.7	4.0	5.4
130°	0.7	0.7	1.3	3.0	4.0
132.5°	0.7	0.7	1.0	2.4	3.0
135°	0.7	0.7	0.7	1.7	2.4
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)