

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: P517604

Luminaire Tested: HVL12-8-LD4-1LO-40-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: P517604
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL12-8-LD4-1LO-40-UNV-C-EDD
Description: 8 FOOT, 12 INCH WIDE, HVL LED LUMINAIRE, WITH 4000K, 80 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5056.0 lumens
Efficiency: N/A
Efficacy: 106.9 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

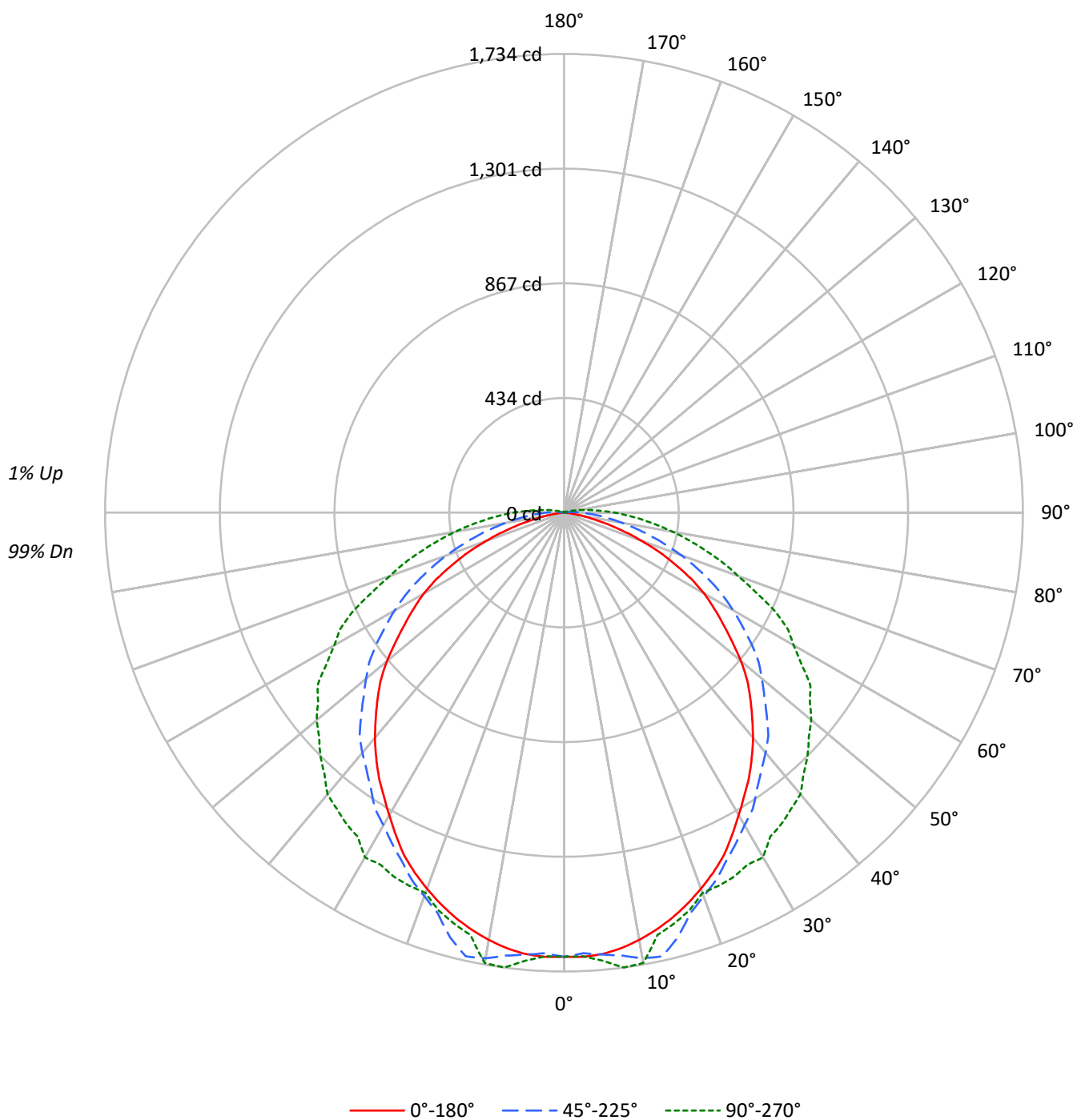
Input Watts (W): 47.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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°	2258	2258	2258
5°	2257	2238	2263
10°	2231	2283	2293
15°	2195	2235	2143
20°	2150	2107	2064
25°	2102	2029	2092
30°	2026	1969	2132
35°	1974	1912	2111
40°	1918	1873	2142
45°	1858	1820	2123
50°	1784	1764	2130
55°	1672	1705	2154
60°	1590	1617	2092
65°	1416	1509	2062
70°	1168	1363	1890
75°	847	1181	1777
80°	491	998	1664
85°	196	812	1566

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 55°

Luminance: 2154 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	161.3	3.2
10°-20°	459.4	9.1
20°-30°	683.5	13.5
30°-40°	821.5	16.2
40°-50°	864.7	17.1
50°-60°	802.4	15.9
60°-70°	634.4	12.5
70°-80°	387.5	7.7
80°-90°	168.8	3.3
90°-100°	52.6	1.0
100°-110°	11.8	0.2
110°-120°	4.8	0.1
120°-130°	2.7	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°	1304.1	25.8
0°-40°	2125.7	42.0
0°-60°	3792.7	75.0
0°-90°	4983.5	98.6
90°-120°	69.1	1.4
90°-150°	72.5	1.4
90°-180°	73.0	1.4
0°-180°	5056.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1678	1678	1678	1678	1678	
5°	1674	1671	1677	1695	1700	159
15°	1585	1646	1662	1606	1608	446
25°	1429	1521	1451	1495	1519	656
35°	1220	1253	1272	1388	1435	762
45°	997	1001	1083	1255	1302	768
55°	734	746	864	1053	1137	660
65°	465	479	609	806	879	460
75°	176	233	340	522	554	192
85°	16	55	132	257	295	24
90°	0	16	69	163	192	1
95°	0	4	30	89	109	0
105°	0	2	6	17	25	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-40-UNV-C-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1678.3	1678.3	1678.3	1678.3	1678.3
2.5°	1680.4	1675.9	1666.7	1675.6	1678.0
5°	1674.2	1670.8	1676.6	1695.4	1700.2
7.5°	1660.2	1673.2	1688.6	1722.8	1733.7
10°	1639.3	1664.0	1710.1	1739.2	1727.9
12.5°	1614.0	1655.8	1717.6	1660.9	1634.6
15°	1584.6	1645.5	1661.6	1606.5	1607.5
17.5°	1550.1	1636.9	1587.4	1586.0	1576.1
20°	1512.8	1608.2	1542.6	1539.9	1529.3
22.5°	1472.8	1570.3	1502.9	1497.5	1526.2
25°	1429.4	1520.7	1451.3	1494.7	1519.0
27.5°	1375.1	1455.7	1408.2	1469.8	1500.2
30°	1320.0	1388.7	1364.1	1449.9	1504.0
32.5°	1268.4	1318.7	1327.9	1442.4	1451.3
35°	1219.5	1253.4	1272.2	1387.7	1434.9
37.5°	1165.8	1175.1	1225.0	1364.8	1410.3
40°	1111.1	1105.3	1185.3	1327.2	1390.1
42.5°	1052.3	1050.3	1143.3	1308.4	1339.9
45°	996.6	1001.0	1083.4	1255.1	1301.9
47.5°	939.5	945.3	1026.7	1196.6	1254.7
50°	873.2	880.7	976.1	1144.6	1219.5
52.5°	801.4	815.7	926.9	1095.4	1171.0
55°	734.0	746.0	864.3	1053.3	1137.1
57.5°	672.5	679.7	799.7	1000.4	1063.6
60°	612.0	613.7	738.8	941.6	1002.1
62.5°	542.6	545.6	676.2	872.2	953.2
65°	464.6	479.3	608.9	805.8	879.0
67.5°	391.8	417.4	540.2	745.0	783.3
70°	313.9	357.3	472.8	673.5	700.5
72.5°	242.4	293.3	403.8	593.5	631.5
75°	175.7	232.8	339.5	521.7	554.5
77.5°	118.3	176.4	279.3	442.4	485.8
80°	70.8	128.9	225.6	368.9	417.8
82.5°	36.2	86.5	175.0	309.4	353.2
85°	15.7	54.7	132.3	256.8	294.7
87.5°	4.4	31.1	97.4	207.5	239.7
90°	0.3	16.4	69.4	162.7	191.8
92.5°	0.3	7.9	48.9	123.1	145.3
95°	0.3	4.1	30.4	89.2	109.1
97.5°	0.3	2.4	18.5	63.2	80.0
100°	0.3	2.1	10.9	42.1	57.1
102.5°	0.3	2.4	7.5	26.7	37.3
105°	0.3	2.4	6.2	17.4	24.6
107.5°	0.7	2.4	5.5	13.0	17.1
110°	0.3	2.1	5.8	9.9	13.3

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.7	1.7	5.5	8.2	9.9
115°	0.3	1.4	4.8	7.9	8.2
117.5°	0.7	1.0	3.8	7.9	8.2
120°	0.7	0.7	3.1	7.5	8.5
122.5°	0.7	0.7	2.4	6.8	8.2
125°	0.3	0.7	2.1	5.1	7.2
127.5°	0.7	0.7	1.7	4.1	5.5
130°	0.7	0.7	1.4	3.1	4.1
132.5°	0.7	0.7	1.0	2.4	3.1
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)