

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: P517612

Luminaire Tested: HVL12-8-LD4-1STD-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: P517612
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL12-8-LD4-1STD-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: 6337.0 lumens
Efficiency: N/A
Efficacy: 94.6 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

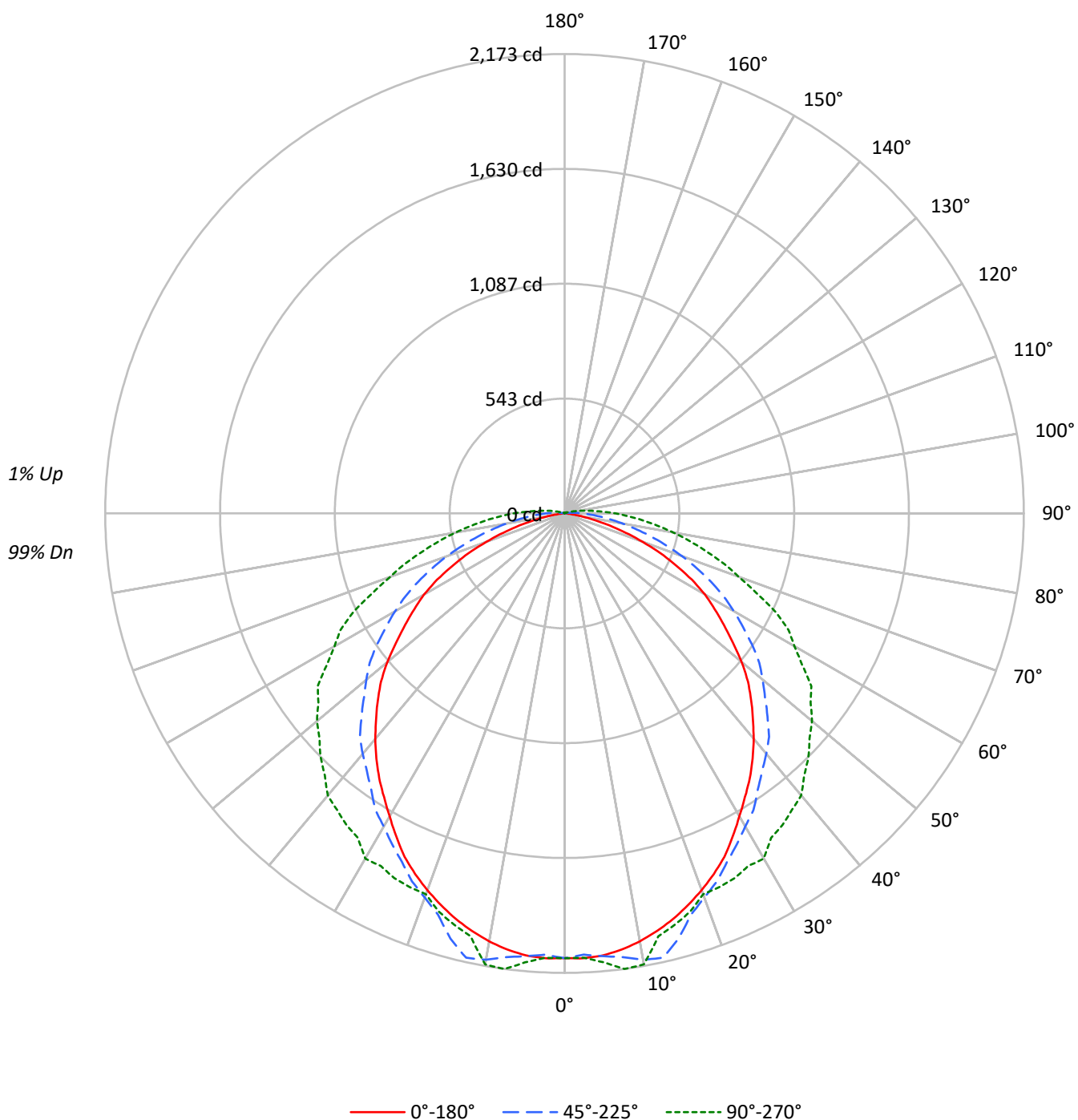
Input Watts (W): 67
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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°	2830	2830	2830
5°	2829	2806	2837
10°	2797	2862	2874
15°	2751	2801	2687
20°	2694	2641	2587
25°	2634	2543	2623
30°	2540	2467	2671
35°	2475	2397	2645
40°	2404	2348	2685
45°	2328	2281	2661
50°	2235	2211	2669
55°	2096	2137	2700
60°	1992	2026	2623
65°	1775	1892	2584
70°	1464	1709	2369
75°	1063	1480	2227
80°	615	1251	2085
85°	246	1017	1963

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 55°

Luminance: 2700 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	202.2	3.2
10°-20°	575.7	9.1
20°-30°	856.6	13.5
30°-40°	1029.7	16.2
40°-50°	1083.8	17.1
50°-60°	1005.6	15.9
60°-70°	795.1	12.5
70°-80°	485.7	7.7
80°-90°	211.6	3.3
90°-100°	65.9	1.0
100°-110°	14.8	0.2
110°-120°	6.0	0.1
120°-130°	3.4	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°	1634.6	25.8
0°-40°	2664.2	42.0
0°-60°	4753.7	75.0
0°-90°	6246.1	98.6
90°-120°	86.6	1.4
90°-150°	90.9	1.4
90°-180°	91.0	1.4
0°-180°	6337.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2104	2104	2104	2104	2104	
5°	2098	2094	2101	2125	2131	199
15°	1986	2062	2082	2014	2015	559
25°	1792	1906	1819	1873	1904	823
35°	1528	1571	1594	1739	1798	955
45°	1249	1255	1358	1573	1632	963
55°	920	935	1083	1320	1425	827
65°	582	601	763	1010	1102	577
75°	220	292	426	654	695	240
85°	20	69	166	322	369	30
90°	0	21	87	204	240	1
95°	0	5	38	112	137	0
105°	0	3	8	22	31	1
115°	0	2	6	10	10	1
125°	0	1	3	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

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2103.5	2103.5	2103.5	2103.5	2103.5
2.5°	2106.1	2100.5	2089.0	2100.1	2103.1
5°	2098.4	2094.1	2101.4	2125.0	2131.0
7.5°	2080.8	2097.1	2116.4	2159.2	2173.0
10°	2054.7	2085.5	2143.4	2179.8	2165.7
12.5°	2023.0	2075.3	2152.8	2081.7	2048.7
15°	1986.1	2062.4	2082.5	2013.6	2014.8
17.5°	1942.8	2051.7	1989.6	1987.8	1975.4
20°	1896.1	2015.7	1933.4	1930.0	1916.7
22.5°	1846.0	1968.1	1883.7	1876.9	1912.9
25°	1791.6	1906.0	1819.0	1873.4	1903.9
27.5°	1723.5	1824.6	1765.0	1842.2	1880.3
30°	1654.5	1740.6	1709.7	1817.3	1885.0
32.5°	1589.8	1652.8	1664.3	1807.9	1819.0
35°	1528.5	1570.9	1594.5	1739.3	1798.4
37.5°	1461.2	1472.8	1535.3	1710.6	1767.6
40°	1392.6	1385.4	1485.6	1663.5	1742.3
42.5°	1318.9	1316.4	1432.9	1639.9	1679.3
45°	1249.1	1254.7	1357.9	1573.0	1631.8
47.5°	1177.5	1184.8	1286.8	1499.8	1572.6
50°	1094.4	1103.8	1223.4	1434.6	1528.5
52.5°	1004.4	1022.4	1161.7	1372.9	1467.6
55°	920.0	935.0	1083.3	1320.2	1425.2
57.5°	842.9	851.9	1002.3	1253.8	1333.1
60°	767.0	769.2	926.0	1180.1	1256.0
62.5°	680.0	683.9	847.6	1093.1	1194.7
65°	582.3	600.8	763.2	1010.0	1101.7
67.5°	491.1	523.2	677.0	933.7	981.7
70°	393.4	447.8	592.6	844.2	878.0
72.5°	303.8	367.7	506.1	743.9	791.5
75°	220.3	291.8	425.5	653.9	695.0
77.5°	148.3	221.1	350.1	554.5	608.9
80°	88.7	161.5	282.8	462.4	523.6
82.5°	45.4	108.4	219.4	387.8	442.6
85°	19.7	68.6	165.8	321.8	369.4
87.5°	5.6	39.0	122.1	260.1	300.4
90°	0.4	20.6	87.0	204.0	240.4
92.5°	0.4	9.9	61.3	154.3	182.1
95°	0.4	5.1	38.1	111.8	136.7
97.5°	0.4	3.0	23.1	79.3	100.3
100°	0.4	2.6	13.7	52.7	71.6
102.5°	0.4	3.0	9.4	33.4	46.7
105°	0.4	3.0	7.7	21.9	30.9
107.5°	0.9	3.0	6.9	16.3	21.4
110°	0.4	2.6	7.3	12.4	16.7

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.9	2.1	6.9	10.3	12.4
115°	0.4	1.7	6.0	9.9	10.3
117.5°	0.9	1.3	4.7	9.9	10.3
120°	0.9	0.9	3.9	9.4	10.7
122.5°	0.9	0.9	3.0	8.6	10.3
125°	0.4	0.9	2.6	6.4	9.0
127.5°	0.9	0.9	2.1	5.1	6.9
130°	0.9	0.9	1.7	3.9	5.1
132.5°	0.9	0.9	1.3	3.0	3.9
135°	0.9	0.9	0.9	2.1	3.0
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)