

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: P518171

Luminaire Tested: HVL8-8-LD4-1LO-30-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: P518171
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-8-LD4-1LO-30-UNV-C-EDD-90
Description: 8 FOOT, 8 INCH WIDE, HVL LED LUMINAIRE, WITH 3000K, 90 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5437.0 lumens
Efficiency: N/A
Efficacy: 118.2 lumens/watt
Spacing Criteria (0/90/45): 1.18 / 1.32 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.67' x L: 8' x H: 0.17')
CIE Type: Direct

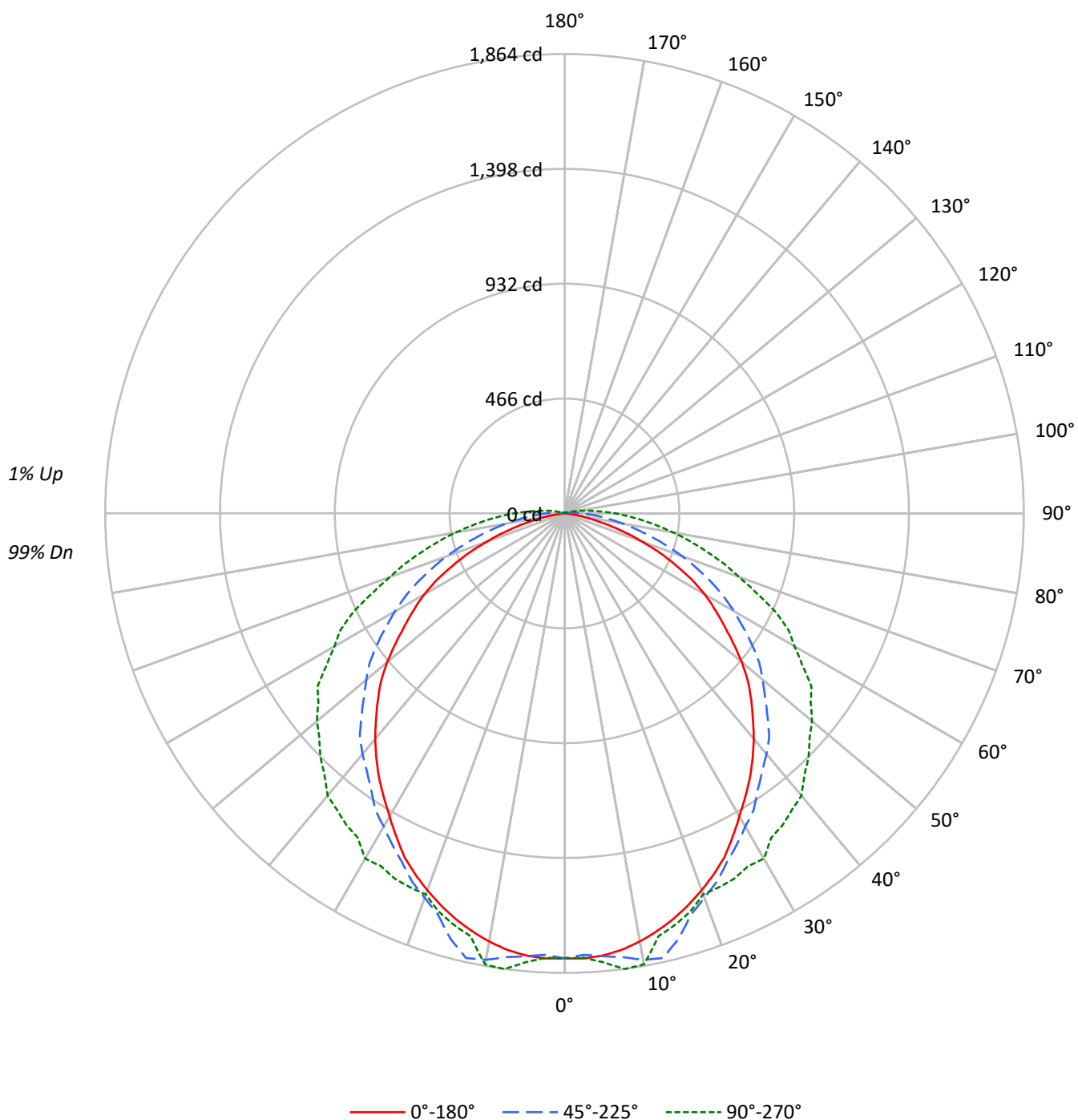
Input Watts (W): 46
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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°	3643	3643	3643
5°	3641	3593	3625
10°	3600	3646	3647
15°	3541	3551	3385
20°	3468	3331	3237
25°	3390	3191	3258
30°	3269	3078	3294
35°	3185	2972	3235
40°	3094	2893	3255
45°	2996	2791	3197
50°	2877	2683	3172
55°	2697	2568	3170
60°	2564	2408	3035
65°	2284	2217	2938
70°	1884	1966	2635
75°	1367	1660	2405
80°	791	1351	2160
85°	316	1033	1902

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 45°

Luminance: 3197 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	173.5	3.2
10°-20°	494.0	9.1
20°-30°	735.0	13.5
30°-40°	883.4	16.2
40°-50°	929.9	17.1
50°-60°	862.8	15.9
60°-70°	682.2	12.5
70°-80°	416.7	7.7
80°-90°	181.6	3.3
90°-100°	56.5	1.0
100°-110°	12.7	0.2
110°-120°	5.1	0.1
120°-130°	2.9	0.1
130°-140°	0.8	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°	1402.4	25.8
0°-40°	2285.8	42.0
0°-60°	4078.5	75.0
0°-90°	5359.0	98.6
90°-120°	74.4	1.4
90°-150°	78.0	1.4
90°-180°	78.0	1.4
0°-180°	5437.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1805	1805	1805	1805	1805	
5°	1800	1797	1803	1823	1828	171
15°	1704	1770	1787	1728	1729	480
25°	1537	1635	1561	1607	1634	706
35°	1311	1348	1368	1492	1543	820
45°	1072	1076	1165	1350	1400	826
55°	789	802	929	1133	1223	709
65°	500	515	655	866	945	495
75°	189	250	365	561	596	206
85°	17	59	142	276	317	26
90°	0	18	75	175	206	1
95°	0	4	33	96	117	0
105°	0	3	7	19	26	1
115°	0	2	5	8	9	1
125°	0	1	2	6	8	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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CATALOG NUMBER: HVL8-8-LD4-1LO-30-UNV-C-EDD-90

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1804.8	1804.8	1804.8	1804.8	1804.8
2.5°	1807.0	1802.2	1792.3	1801.8	1804.4
5°	1800.4	1796.7	1803.0	1823.2	1828.3
7.5°	1785.3	1799.3	1815.8	1852.6	1864.3
10°	1762.9	1789.3	1839.0	1870.2	1858.1
12.5°	1735.7	1780.5	1847.1	1786.0	1757.7
15°	1704.1	1769.5	1786.8	1727.6	1728.7
17.5°	1666.9	1760.3	1707.0	1705.5	1694.9
20°	1626.8	1729.4	1658.8	1655.9	1644.5
22.5°	1583.8	1688.6	1616.2	1610.3	1641.2
25°	1537.1	1635.3	1560.7	1607.4	1633.5
27.5°	1478.7	1565.4	1514.3	1580.5	1613.2
30°	1419.5	1493.4	1466.9	1559.2	1617.3
32.5°	1364.0	1418.0	1427.9	1551.1	1560.7
35°	1311.4	1347.8	1368.0	1492.3	1543.0
37.5°	1253.7	1263.6	1317.3	1467.7	1516.6
40°	1194.9	1188.6	1274.6	1427.2	1494.9
42.5°	1131.6	1129.4	1229.4	1407.0	1440.8
45°	1071.7	1076.5	1165.1	1349.6	1400.0
47.5°	1010.3	1016.5	1104.0	1286.8	1349.3
50°	939.0	947.1	1049.6	1230.9	1311.4
52.5°	861.8	877.2	996.7	1177.9	1259.2
55°	789.3	802.2	929.4	1132.7	1222.8
57.5°	723.2	730.9	859.9	1075.7	1143.8
60°	658.1	659.9	794.5	1012.5	1077.6
62.5°	583.5	586.8	727.2	937.9	1025.0
65°	499.6	515.4	654.8	866.5	945.2
67.5°	421.3	448.9	580.9	801.1	842.3
70°	337.5	384.2	508.5	724.3	753.3
72.5°	260.7	315.4	434.2	638.2	679.0
75°	189.0	250.4	365.1	561.0	596.3
77.5°	127.2	189.7	300.4	475.7	522.4
80°	76.1	138.6	242.6	396.7	449.3
82.5°	39.0	93.0	188.2	332.7	379.8
85°	16.9	58.8	142.3	276.1	316.9
87.5°	4.8	33.5	104.8	223.2	257.7
90°	0.4	17.6	74.6	175.0	206.3
92.5°	0.4	8.5	52.6	132.4	156.3
95°	0.4	4.4	32.7	96.0	117.3
97.5°	0.4	2.6	19.9	68.0	86.0
100°	0.4	2.2	11.8	45.2	61.4
102.5°	0.4	2.6	8.1	28.7	40.1
105°	0.4	2.6	6.6	18.8	26.5
107.5°	0.7	2.6	5.9	14.0	18.4
110°	0.4	2.2	6.3	10.7	14.3

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.7	1.8	5.9	8.8	10.7
115°	0.4	1.5	5.1	8.5	8.8
117.5°	0.7	1.1	4.0	8.5	8.8
120°	0.7	0.7	3.3	8.1	9.2
122.5°	0.7	0.7	2.6	7.4	8.8
125°	0.4	0.7	2.2	5.5	7.7
127.5°	0.7	0.7	1.8	4.4	5.9
130°	0.7	0.7	1.5	3.3	4.4
132.5°	0.7	0.7	1.1	2.6	3.3
135°	0.7	0.7	0.7	1.8	2.6
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)