

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: P518157

Luminaire Tested: HVL8-8-LD4-1HI-30-UNV-O-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: P518157
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-8-LD4-1HI-30-UNV-O-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: 8161.0 lumens
Efficiency: N/A
Efficacy: 94.9 lumens/watt
Spacing Criteria (0/90/45): 1.25 / 1.27 / 1.38
Luminous Opening: Rectangular w/ Sides (W: 0.67' x L: 8' x H: 0.17')
CIE Type: Direct

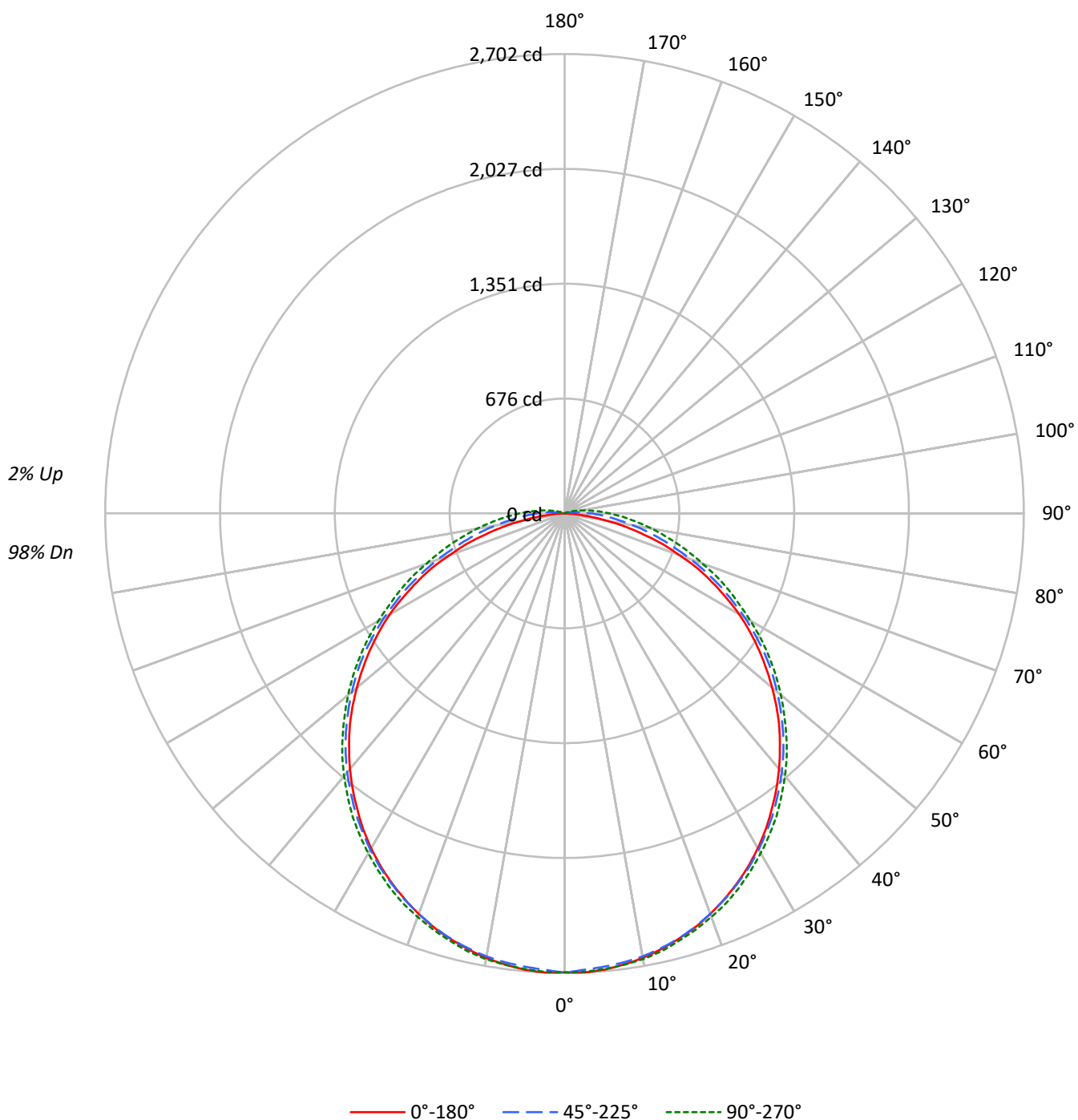
Input Watts (W): 86
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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				0
RW	70	50	30	10	70	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
1	108	102	98	94	105	100	96	92	95	92	89	91	88	86	87	85	83
2	98	89	82	76	95	87	80	75	83	77	73	79	75	71	76	72	69
3	89	78	69	63	86	76	68	62	73	66	61	70	64	59	67	62	58
4	81	69	60	53	79	67	59	52	65	57	52	62	56	51	60	54	50
5	75	61	52	45	72	60	52	45	58	50	44	56	49	44	54	48	43
6	69	55	46	40	67	54	46	39	52	45	39	50	44	38	49	43	38
7	64	50	41	35	62	49	41	35	47	40	34	46	39	34	44	38	34
8	59	46	37	31	58	45	37	31	43	36	31	42	35	30	41	35	30
9	55	42	34	28	54	41	33	28	40	33	28	39	32	27	38	32	27
10	52	39	31	25	51	38	30	25	37	30	25	36	29	25	35	29	25

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5448	5448	5448
5°	5447	5333	5331
10°	5420	5244	5224
15°	5384	5144	5096
20°	5344	5032	4972
25°	5295	4917	4845
30°	5237	4793	4701
35°	5161	4657	4559
40°	5083	4513	4393
45°	4999	4356	4213
50°	4887	4174	4020
55°	4768	3973	3808
60°	4626	3710	3559
65°	4383	3416	3313
70°	4028	3068	3027
75°	3513	2685	2767
80°	2725	2311	2529
85°	1571	1936	2303

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 4999 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	255.4	3.1
10°-20°	732.7	9.0
20°-30°	1111.7	13.6
30°-40°	1344.2	16.5
40°-50°	1402.6	17.2
50°-60°	1282.4	15.7
60°-70°	999.7	12.2
70°-80°	625.4	7.7
80°-90°	284.0	3.5
90°-100°	95.2	1.2
100°-110°	23.9	0.3
110°-120°	3.8	0.0
120°-130°	0.0	0.0
130°-140°	0.0	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°	2099.8	25.7
0°-40°	3444.0	42.2
0°-60°	6129.0	75.1
0°-90°	8038.1	98.5
90°-120°	122.9	1.5
90°-150°	122.9	1.5
90°-180°	123.0	1.5
0°-180°	8161.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2699	2699	2699	2699	2699	
5°	2693	2688	2676	2689	2689	256
15°	2591	2595	2588	2603	2602	731
25°	2401	2403	2405	2426	2429	1106
35°	2125	2135	2144	2165	2174	1330
45°	1788	1804	1818	1836	1845	1378
55°	1395	1412	1438	1459	1469	1247
65°	959	975	1009	1049	1066	949
75°	486	515	590	661	686	518
85°	84	155	267	352	384	106
90°	1	58	157	236	265	3
95°	1	15	81	148	170	0
105°	1	2	13	40	53	1
115°	2	2	2	7	10	1
125°	0	0	0	0	0	0
135°	0	0	0	0	0	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-LD4-1HI-30-UNV-O-EDD-90

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2699.2	2699.2	2699.2	2699.2	2699.2
2.5°	2702.3	2698.5	2686.4	2698.5	2697.9
5°	2693.4	2688.3	2676.3	2689.0	2689.0
7.5°	2675.6	2673.7	2662.9	2677.5	2677.5
10°	2654.6	2654.0	2645.1	2661.0	2661.6
12.5°	2625.4	2627.9	2619.6	2634.9	2636.8
15°	2591.0	2595.4	2588.5	2603.1	2602.4
17.5°	2553.5	2556.0	2550.9	2567.5	2566.8
20°	2507.0	2510.2	2506.4	2523.5	2525.5
22.5°	2455.5	2459.9	2459.3	2477.1	2482.2
25°	2400.7	2402.7	2405.2	2425.6	2429.4
27.5°	2340.3	2343.5	2347.9	2366.4	2370.2
30°	2274.1	2279.2	2284.3	2303.4	2308.5
32.5°	2204.1	2209.2	2215.6	2240.4	2242.9
35°	2125.2	2134.8	2143.7	2165.3	2174.2
37.5°	2046.3	2058.4	2066.7	2089.6	2096.6
40°	1963.0	1975.1	1988.4	2012.6	2017.1
42.5°	1875.8	1889.8	1905.7	1927.3	1935.0
45°	1788.0	1803.9	1818.5	1836.3	1845.3
47.5°	1693.2	1709.1	1726.9	1747.3	1753.0
50°	1595.2	1613.6	1632.7	1651.8	1662.0
52.5°	1494.7	1516.9	1538.6	1558.9	1568.5
55°	1395.4	1411.9	1438.0	1459.0	1468.6
57.5°	1292.3	1306.3	1329.9	1364.2	1369.3
60°	1187.3	1200.1	1224.2	1252.2	1263.7
62.5°	1071.5	1088.7	1114.2	1149.8	1160.0
65°	958.9	975.4	1009.2	1049.3	1065.8
67.5°	850.1	855.8	899.1	941.1	967.8
70°	721.6	743.2	793.5	845.0	865.4
72.5°	610.8	632.5	687.8	748.3	773.7
75°	485.5	515.4	590.5	661.1	685.9
77.5°	375.4	408.5	501.4	572.7	601.3
80°	262.2	313.7	414.9	495.0	526.2
82.5°	164.8	228.4	336.6	420.6	448.0
85°	84.0	155.3	266.6	352.5	383.7
87.5°	22.3	100.5	207.4	289.5	321.3
90°	0.6	57.9	157.2	236.1	264.7
92.5°	0.6	32.5	117.1	187.7	217.0
95°	0.6	15.3	81.4	147.6	170.5
97.5°	0.6	6.4	56.0	111.4	134.3
100°	0.6	3.2	35.6	80.8	100.5
102.5°	1.3	1.9	22.3	57.9	73.8
105°	1.3	1.9	13.4	39.5	52.8
107.5°	1.3	1.9	7.6	26.7	36.3
110°	1.9	1.9	4.5	16.5	24.2

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	1.9	1.9	2.5	10.8	15.9
115°	1.9	1.9	2.5	7.0	10.2
117.5°	0.0	0.0	0.0	0.0	0.0
120°	0.0	0.0	0.0	0.0	0.0
122.5°	0.0	0.0	0.0	0.0	0.0
125°	0.0	0.0	0.0	0.0	0.0
127.5°	0.0	0.0	0.0	0.0	0.0
130°	0.0	0.0	0.0	0.0	0.0
132.5°	0.0	0.0	0.0	0.0	0.0
135°	0.0	0.0	0.0	0.0	0.0
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)