

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: P518185

Luminaire Tested: HVL8-8-LD4-1LO-50-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: P518185
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-8-LD4-1LO-50-UNV-O-EDD-90
Description: 8 FOOT, 8 INCH WIDE, HVL LED LUMINAIRE, WITH 5000K, 90 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5307.0 lumens
Efficiency: N/A
Efficacy: 115.4 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

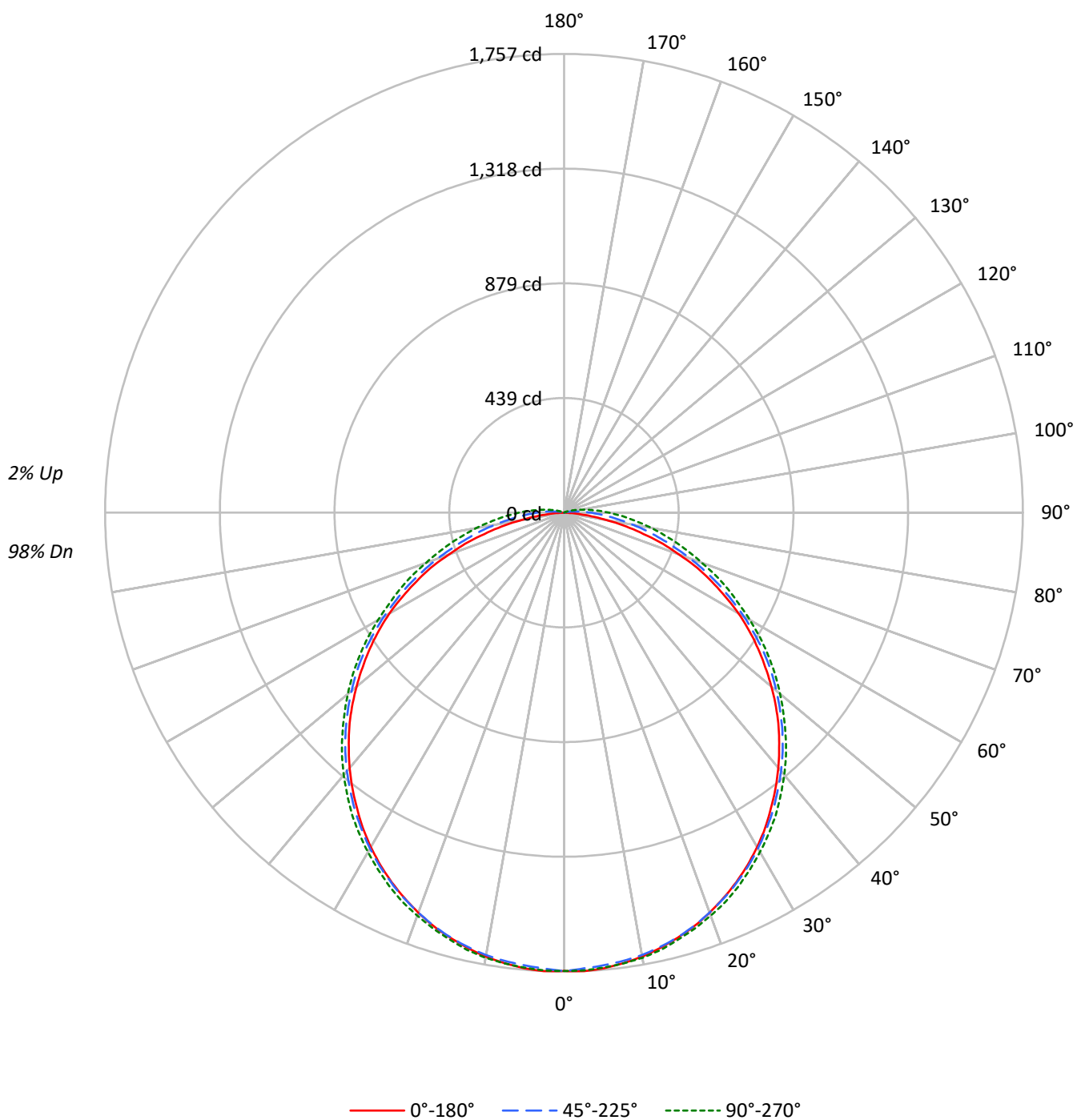
Input Watts (W): 46
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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

TEST NUMBER: P518185

CATALOG NUMBER: HVL8-8-LD4-1LO-50-UNV-O-EDD-90

Luminous Intensity Polar Plot



TEST NUMBER: P518185

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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		0
RCR																	
0	119	119	119	119	116	116	116	116	110	110	110		105	105	105		98
1	108	102	98	94	105	100	96	92	95	92	89		91	88	86		81
2	98	89	82	76	95	87	80	75	83	77	73		79	75	71		67
3	89	78	69	63	86	76	68	62	73	66	61		70	64	59		56
4	81	69	60	53	79	67	59	52	65	57	52		62	56	51		47
5	75	61	52	45	72	60	52	45	58	50	44		56	49	44		41
6	69	55	46	40	67	54	46	39	52	45	39		50	44	38		36
7	64	50	41	35	62	49	41	35	47	40	34		46	39	34		32
8	59	46	37	31	58	45	37	31	43	36	31		42	35	30		28
9	55	42	34	28	54	41	33	28	40	33	28		39	32	27		25
10	52	39	31	25	51	38	30	25	37	30	25		36	29	25		23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3542	3542	3542
5°	3542	3468	3467
10°	3525	3410	3397
15°	3501	3345	3314
20°	3475	3272	3233
25°	3443	3197	3151
30°	3405	3117	3057
35°	3356	3028	2965
40°	3305	2935	2856
45°	3251	2833	2740
50°	3178	2714	2614
55°	3101	2584	2476
60°	3008	2413	2315
65°	2851	2221	2155
70°	2619	1995	1968
75°	2284	1746	1799
80°	1772	1503	1645
85°	1021	1259	1498

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 3251 cd/sqm

TEST NUMBER: P518185

CATALOG NUMBER: HVL8-8-LD4-1LO-50-UNV-O-EDD-90

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	166.1	3.1
10°-20°	476.4	9.0
20°-30°	722.9	13.6
30°-40°	874.1	16.5
40°-50°	912.1	17.2
50°-60°	833.9	15.7
60°-70°	650.1	12.2
70°-80°	406.7	7.7
80°-90°	184.7	3.5
90°-100°	61.9	1.2
100°-110°	15.5	0.3
110°-120°	2.4	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°	1365.5	25.7
0°-40°	2239.6	42.2
0°-60°	3985.6	75.1
0°-90°	5227.1	98.5
90°-120°	79.9	1.5
90°-150°	79.9	1.5
90°-180°	80.0	1.5
0°-180°	5307.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1755	1755	1755	1755	1755	
5°	1752	1748	1740	1749	1749	166
15°	1685	1688	1683	1693	1692	476
25°	1561	1562	1564	1577	1580	719
35°	1382	1388	1394	1408	1414	865
45°	1163	1173	1183	1194	1200	896
55°	907	918	935	949	955	811
65°	624	634	656	682	693	617
75°	316	335	384	430	446	337
85°	55	101	173	229	250	69
90°	0	38	102	154	172	2
95°	0	10	53	96	111	0
105°	1	1	9	26	34	1
115°	1	1	2	5	7	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

TEST NUMBER: P518185

CATALOG NUMBER: HVL8-8-LD4-1LO-50-UNV-O-EDD-90

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1755.2	1755.2	1755.2	1755.2	1755.2
2.5°	1757.3	1754.8	1747.0	1754.8	1754.4
5°	1751.5	1748.2	1740.3	1748.6	1748.6
7.5°	1739.9	1738.7	1731.6	1741.2	1741.2
10°	1726.3	1725.9	1720.1	1730.4	1730.8
12.5°	1707.2	1708.9	1703.5	1713.4	1714.7
15°	1684.9	1687.8	1683.2	1692.8	1692.3
17.5°	1660.5	1662.1	1658.8	1669.6	1669.2
20°	1630.3	1632.3	1629.9	1641.0	1642.3
22.5°	1596.8	1599.7	1599.2	1610.8	1614.1
25°	1561.2	1562.4	1564.1	1577.3	1579.8
27.5°	1521.9	1523.9	1526.8	1538.8	1541.3
30°	1478.8	1482.1	1485.5	1497.9	1501.2
32.5°	1433.3	1436.6	1440.8	1456.9	1458.6
35°	1382.0	1388.2	1394.0	1408.1	1413.9
37.5°	1330.7	1338.6	1343.9	1358.8	1363.4
40°	1276.5	1284.4	1293.0	1308.8	1311.7
42.5°	1219.8	1228.9	1239.3	1253.3	1258.3
45°	1162.7	1173.1	1182.6	1194.2	1199.9
47.5°	1101.1	1111.4	1123.0	1136.2	1140.0
50°	1037.3	1049.3	1061.7	1074.2	1080.8
52.5°	972.0	986.4	1000.5	1013.7	1020.0
55°	907.4	918.2	935.1	948.8	955.0
57.5°	840.4	849.5	864.8	887.1	890.4
60°	772.1	780.4	796.1	814.3	821.8
62.5°	696.8	708.0	724.5	747.7	754.3
65°	623.6	634.3	656.2	682.3	693.1
67.5°	552.8	556.5	584.7	612.0	629.4
70°	469.2	483.3	516.0	549.5	562.7
72.5°	397.2	411.3	447.3	486.6	503.2
75°	315.7	335.2	384.0	429.9	446.0
77.5°	244.1	265.6	326.1	372.4	391.0
80°	170.5	204.0	269.8	321.9	342.2
82.5°	107.2	148.5	218.9	273.5	291.3
85°	54.6	101.0	173.4	229.2	249.5
87.5°	14.5	65.4	134.9	188.3	209.0
90°	0.4	37.7	102.2	153.5	172.1
92.5°	0.4	21.1	76.1	122.1	141.1
95°	0.4	9.9	53.0	96.0	110.9
97.5°	0.4	4.1	36.4	72.4	87.3
100°	0.4	2.1	23.2	52.5	65.4
102.5°	0.8	1.2	14.5	37.7	48.0
105°	0.8	1.2	8.7	25.7	34.3
107.5°	0.8	1.2	5.0	17.4	23.6
110°	1.2	1.2	2.9	10.8	15.7

TEST NUMBER: P518185

CATALOG NUMBER: HVL8-8-LD4-1LO-50-UNV-O-EDD-90

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	1.2	1.2	1.7	7.0	10.3
115°	1.2	1.2	1.7	4.6	6.6
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)