

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: P517989

Luminaire Tested: HVL8-2-LD4-3LO-40-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: P517989
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-2-LD4-3LO-40-UNV-O-EDD-90
Description: 2 FOOT, 8 INCH WIDE, HVL LED LUMINAIRE, WITH 4000K, 90 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3907.0 lumens
Efficiency: N/A
Efficacy: 115.9 lumens/watt
Spacing Criteria (0/90/45): 1.25 / 1.27 / 1.38
Luminous Opening: Rectangular w/ Sides (W: 0.67' x L: 2' x H: 0.17')
CIE Type: Direct

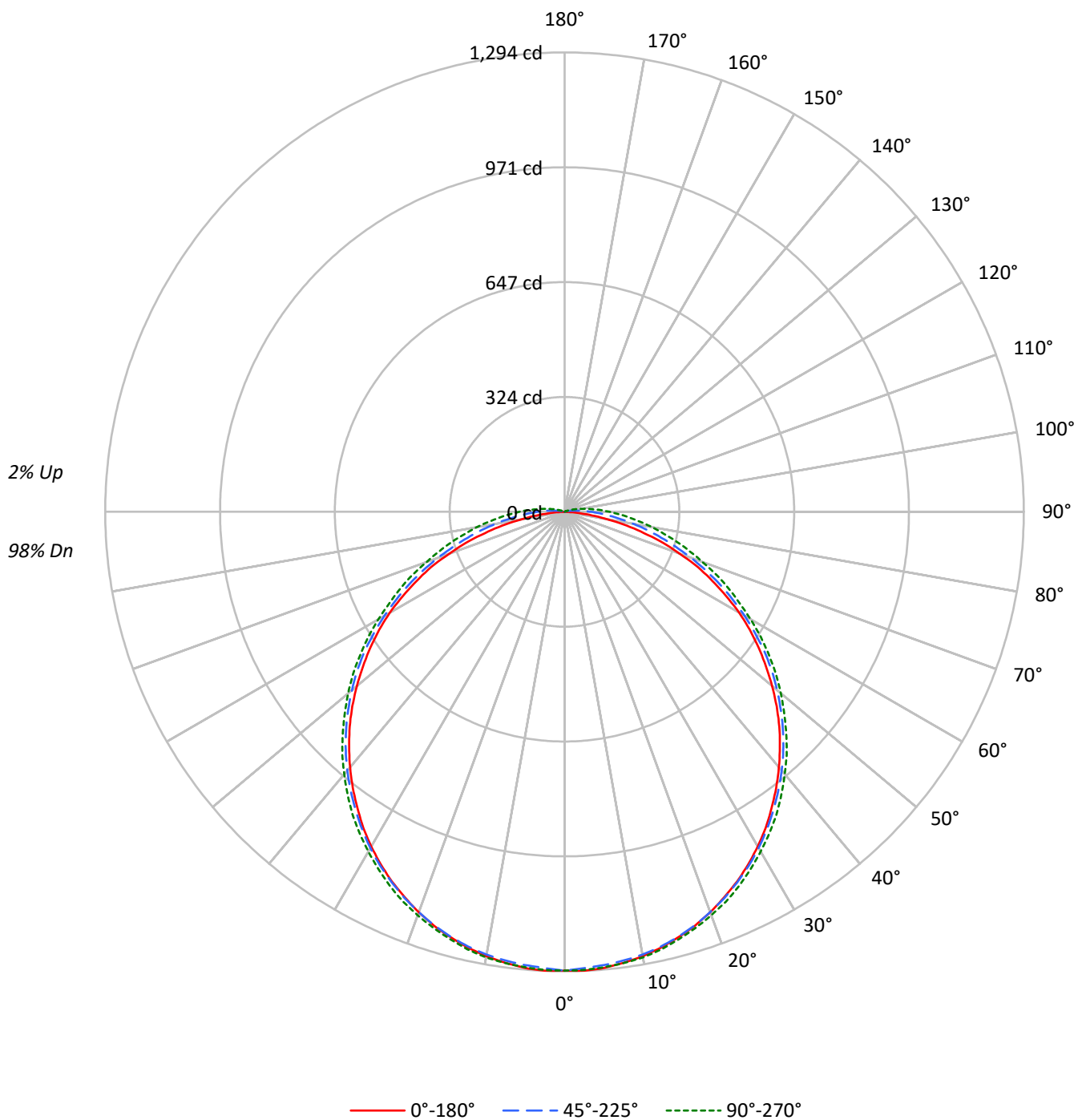
Input Watts (W): 33.7
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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: P517989

CATALOG NUMBER: HVL8-2-LD4-3LO-40-UNV-O-EDD-90

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			98
1	108	102	98	94	105	100	96	92	95	92	89	91	88	86	87	85	83			81
2	98	89	82	76	95	87	80	75	83	77	73	79	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	52	62	56	51	60	54	50			47
5	75	61	52	45	72	60	52	45	58	50	44	56	49	44	54	48	43			41
6	69	55	46	40	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°	10432	10432	10432
5°	10374	10173	10209
10°	10267	9966	10004
15°	10140	9742	9759
20°	10007	9494	9520
25°	9854	9241	9278
30°	9683	8973	9003
35°	9474	8681	8730
40°	9257	8375	8411
45°	9021	8043	8068
50°	8725	7664	7699
55°	8402	7249	7292
60°	8020	6719	6816
65°	7440	6129	6344
70°	6634	5442	5797
75°	5529	4691	5299
80°	3962	3951	4843
85°	1907	3199	4410

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 9021 cd/sqm

TEST NUMBER: P517989

CATALOG NUMBER: HVL8-2-LD4-3LO-40-UNV-O-EDD-90

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	122.3	3.1
10°-20°	350.8	9.0
20°-30°	532.2	13.6
30°-40°	643.5	16.5
40°-50°	671.5	17.2
50°-60°	613.9	15.7
60°-70°	478.6	12.2
70°-80°	299.4	7.7
80°-90°	136.0	3.5
90°-100°	45.6	1.2
100°-110°	11.4	0.3
110°-120°	1.8	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°	1005.3	25.7
0°-40°	1648.8	42.2
0°-60°	2934.2	75.1
0°-90°	3848.2	98.5
90°-120°	58.8	1.5
90°-150°	58.8	1.5
90°-180°	59.0	1.5
0°-180°	3907.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1292	1292	1292	1292	1292	
5°	1290	1287	1281	1287	1287	122
15°	1240	1242	1239	1246	1246	350
25°	1149	1150	1152	1161	1163	530
35°	1017	1022	1026	1037	1041	637
45°	856	864	871	879	883	660
55°	668	676	688	698	703	597
65°	459	467	483	502	510	454
75°	232	247	283	316	328	248
85°	40	74	128	169	184	51
90°	0	28	75	113	127	2
95°	0	7	39	71	82	0
105°	1	1	6	19	25	1
115°	1	1	1	3	5	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: P517989

CATALOG NUMBER: HVL8-2-LD4-3LO-40-UNV-O-EDD-90

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1292.2	1292.2	1292.2	1292.2	1292.2
2.5°	1293.7	1291.9	1286.1	1291.9	1291.6
5°	1289.5	1287.0	1281.2	1287.3	1287.3
7.5°	1280.9	1280.0	1274.8	1281.8	1281.8
10°	1270.9	1270.6	1266.3	1273.9	1274.2
12.5°	1256.9	1258.1	1254.1	1261.4	1262.3
15°	1240.4	1242.5	1239.2	1246.2	1245.9
17.5°	1222.4	1223.7	1221.2	1229.1	1228.8
20°	1200.2	1201.7	1199.9	1208.1	1209.0
22.5°	1175.5	1177.7	1177.4	1185.9	1188.3
25°	1149.3	1150.2	1151.5	1161.2	1163.0
27.5°	1120.4	1121.9	1124.0	1132.9	1134.7
30°	1088.7	1091.2	1093.6	1102.7	1105.2
32.5°	1055.2	1057.6	1060.7	1072.6	1073.8
35°	1017.4	1022.0	1026.3	1036.6	1040.9
37.5°	979.7	985.4	989.4	1000.4	1003.7
40°	939.8	945.5	951.9	963.5	965.6
42.5°	898.0	904.7	912.3	922.7	926.4
45°	856.0	863.6	870.6	879.1	883.4
47.5°	810.6	818.2	826.7	836.5	839.2
50°	763.7	772.5	781.7	790.8	795.7
52.5°	715.6	726.2	736.6	746.3	750.9
55°	668.0	676.0	688.4	698.5	703.1
57.5°	618.7	625.4	636.7	653.1	655.5
60°	568.4	574.5	586.1	599.5	605.0
62.5°	513.0	521.2	533.4	550.4	555.3
65°	459.1	467.0	483.1	502.3	510.2
67.5°	407.0	409.7	430.4	450.5	463.3
70°	345.4	355.8	379.9	404.5	414.3
72.5°	292.4	302.8	329.3	358.2	370.4
75°	232.4	246.7	282.7	316.5	328.4
77.5°	179.7	195.6	240.0	274.2	287.9
80°	125.5	150.2	198.6	237.0	251.9
82.5°	78.9	109.4	161.1	201.4	214.5
85°	40.2	74.3	127.6	168.8	183.7
87.5°	10.7	48.1	99.3	138.6	153.8
90°	0.3	27.7	75.2	113.0	126.7
92.5°	0.3	15.5	56.1	89.9	103.9
95°	0.3	7.3	39.0	70.7	81.6
97.5°	0.3	3.0	26.8	53.3	64.3
100°	0.3	1.5	17.1	38.7	48.1
102.5°	0.6	0.9	10.7	27.7	35.3
105°	0.6	0.9	6.4	18.9	25.3
107.5°	0.6	0.9	3.7	12.8	17.4
110°	0.9	0.9	2.1	7.9	11.6

TEST NUMBER: P517989

CATALOG NUMBER: HVL8-2-LD4-3LO-40-UNV-O-EDD-90

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.9	0.9	1.2	5.2	7.6
115°	0.9	0.9	1.2	3.4	4.9
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)