

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: P518178

Luminaire Tested: HVL8-8-LD4-1LO-35-UNV-O-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: P518178
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-8-LD4-1LO-35-UNV-O-EDD
Description: 8 FOOT, 8 INCH WIDE, HVL LED LUMINAIRE, WITH 3500K, 80 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4323.0 lumens
Efficiency: N/A
Efficacy: 94.0 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

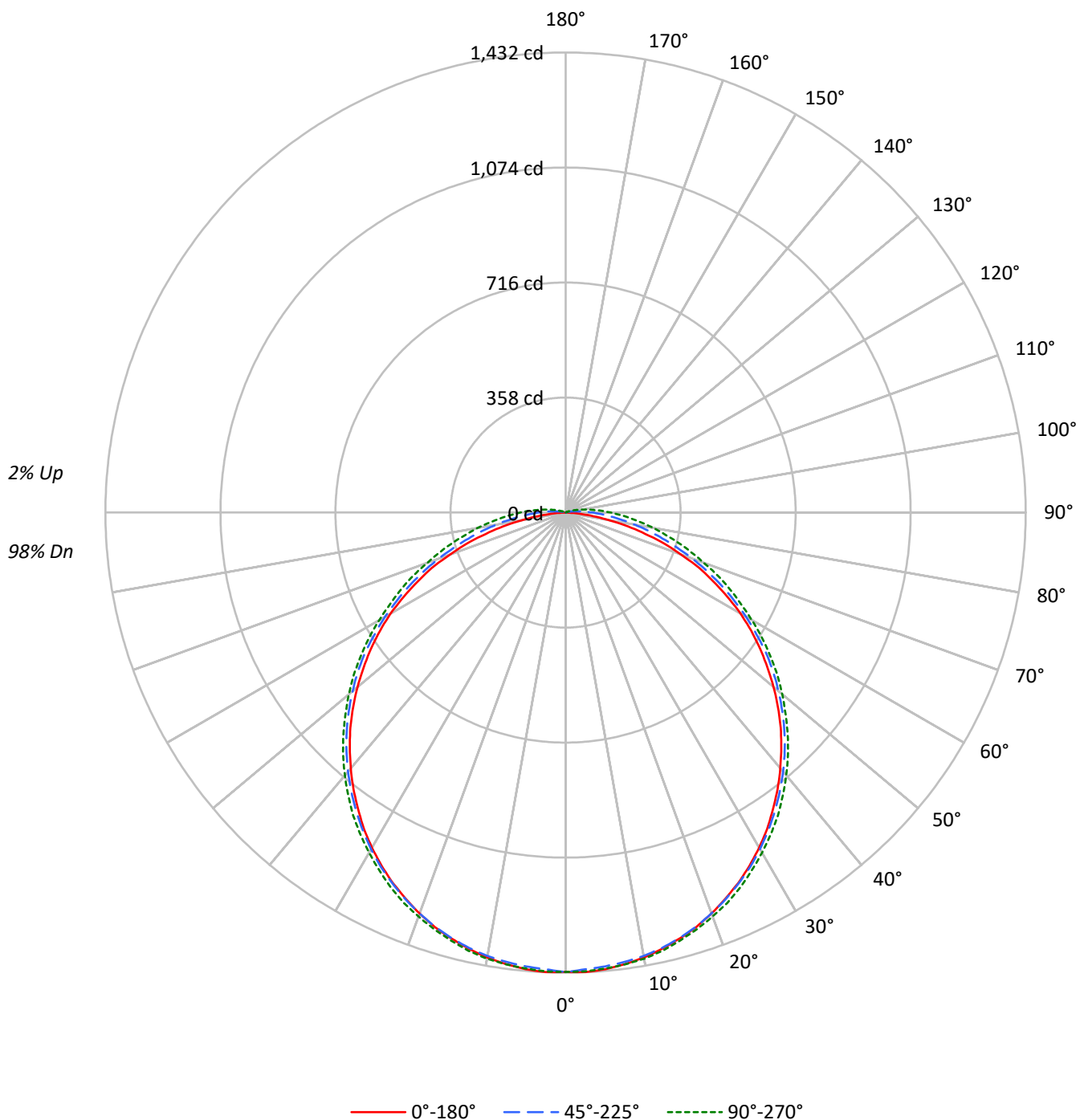
Input Watts (W): 46
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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: P518178

CATALOG NUMBER: HVL8-8-LD4-1LO-35-UNV-O-EDD

Luminous Intensity Polar Plot



TEST NUMBER: P518178

CATALOG NUMBER: HVL8-8-LD4-1LO-35-UNV-O-EDD

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°	2886	2886	2886
5°	2885	2825	2824
10°	2871	2778	2767
15°	2852	2725	2700
20°	2831	2666	2634
25°	2805	2605	2567
30°	2774	2539	2490
35°	2734	2467	2415
40°	2692	2391	2327
45°	2648	2307	2232
50°	2589	2211	2130
55°	2526	2104	2017
60°	2450	1966	1885
65°	2322	1810	1755
70°	2133	1625	1603
75°	1861	1422	1465
80°	1444	1224	1340
85°	832	1025	1220

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2648 cd/sqm

TEST NUMBER: P518178

CATALOG NUMBER: HVL8-8-LD4-1LO-35-UNV-O-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	135.3	3.1
10°-20°	388.1	9.0
20°-30°	588.9	13.6
30°-40°	712.1	16.5
40°-50°	743.0	17.2
50°-60°	679.3	15.7
60°-70°	529.6	12.2
70°-80°	331.3	7.7
80°-90°	150.5	3.5
90°-100°	50.4	1.2
100°-110°	12.7	0.3
110°-120°	2.0	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°	1112.3	25.7
0°-40°	1824.4	42.2
0°-60°	3246.6	75.1
0°-90°	4257.9	98.5
90°-120°	65.1	1.5
90°-150°	65.1	1.5
90°-180°	65.0	1.5
0°-180°	4323.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1430	1430	1430	1430	1430	
5°	1427	1424	1418	1424	1424	135
15°	1372	1375	1371	1379	1379	387
25°	1272	1273	1274	1285	1287	586
35°	1126	1131	1136	1147	1152	705
45°	947	956	963	973	978	730
55°	739	748	762	773	778	660
65°	508	517	535	556	565	503
75°	257	273	313	350	363	274
85°	44	82	141	187	203	56
90°	0	31	83	125	140	2
95°	0	8	43	78	90	0
105°	1	1	7	21	28	1
115°	1	1	1	4	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: P518178

CATALOG NUMBER: HVL8-8-LD4-1LO-35-UNV-O-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1429.8	1429.8	1429.8	1429.8	1429.8
2.5°	1431.5	1429.5	1423.0	1429.5	1429.1
5°	1426.8	1424.1	1417.7	1424.4	1424.4
7.5°	1417.3	1416.3	1410.6	1418.3	1418.3
10°	1406.2	1405.9	1401.1	1409.6	1409.9
12.5°	1390.7	1392.0	1387.7	1395.7	1396.8
15°	1372.5	1374.8	1371.1	1378.9	1378.6
17.5°	1352.6	1353.9	1351.3	1360.0	1359.7
20°	1328.0	1329.7	1327.7	1336.8	1337.8
22.5°	1300.7	1303.1	1302.7	1312.2	1314.9
25°	1271.7	1272.7	1274.1	1284.9	1286.9
27.5°	1239.7	1241.4	1243.7	1253.5	1255.5
30°	1204.6	1207.3	1210.0	1220.1	1222.8
32.5°	1167.6	1170.3	1173.6	1186.8	1188.1
35°	1125.8	1130.8	1135.5	1147.0	1151.7
37.5°	1084.0	1090.4	1094.8	1106.9	1110.6
40°	1039.8	1046.2	1053.3	1066.1	1068.5
42.5°	993.6	1001.1	1009.5	1020.9	1025.0
45°	947.1	955.6	963.3	972.7	977.5
47.5°	896.9	905.3	914.8	925.6	928.6
50°	845.0	854.8	864.9	875.0	880.4
52.5°	791.7	803.5	815.0	825.8	830.8
55°	739.2	747.9	761.7	772.9	777.9
57.5°	684.6	692.0	704.4	722.6	725.3
60°	628.9	635.7	648.5	663.3	669.4
62.5°	567.6	576.7	590.2	609.1	614.5
65°	507.9	516.7	534.6	555.8	564.6
67.5°	450.3	453.3	476.3	498.5	512.7
70°	382.2	393.7	420.3	447.6	458.4
72.5°	323.6	335.0	364.4	396.4	409.9
75°	257.2	273.0	312.8	350.2	363.3
77.5°	198.9	216.4	265.6	303.3	318.5
80°	138.9	166.2	219.8	262.2	278.7
82.5°	87.3	121.0	178.3	222.8	237.3
85°	44.5	82.2	141.2	186.7	203.2
87.5°	11.8	53.3	109.9	153.4	170.2
90°	0.3	30.7	83.3	125.0	140.2
92.5°	0.3	17.2	62.0	99.4	114.9
95°	0.3	8.1	43.1	78.2	90.3
97.5°	0.3	3.4	29.7	59.0	71.1
100°	0.3	1.7	18.9	42.8	53.3
102.5°	0.7	1.0	11.8	30.7	39.1
105°	0.7	1.0	7.1	20.9	28.0
107.5°	0.7	1.0	4.0	14.2	19.2
110°	1.0	1.0	2.4	8.8	12.8

TEST NUMBER: P518178

CATALOG NUMBER: HVL8-8-LD4-1LO-35-UNV-O-EDD

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	1.0	1.0	1.3	5.7	8.4
115°	1.0	1.0	1.3	3.7	5.4
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)