

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: P518197

Luminaire Tested: HVL8-8-LD4-1STD-40-UNV-O-EDD-90

Issue Date: 4/27/2021

Tested By:

Approved By:



NVLAP Lab Code: 200050-0

Cooper Lighting Solutions laboratories have been accredited by National Voluntary Laboratory Accreditation Program (NVLAP) that it adheres to the requirements of ISO/IEC 17025:2005 and appropriate IESNA test methods. This report must not be used to claim product certification, approval or endorsement by NVLAP, NIST or any agency of the Federal Government. Results contained in this report are valid for luminaire sample tested, as supplied by requestor. Information related to the luminaire tested has been supplied by requestor and can affect the validity of the test results. Report shall not be reproduced except in full without approval of Cooper Lighting Solutions Lighting Laboratory. Test performed at address noted above.

Test Information

Test Method: LM-79-2019
Report Number: P518197
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-8-LD4-1STD-40-UNV-O-EDD-90
Description: 8 FOOT, 8 INCH WIDE, HVL LED LUMINAIRE, WITH 4000K, 90 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6722.0 lumens
Efficiency: N/A
Efficacy: 103.1 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

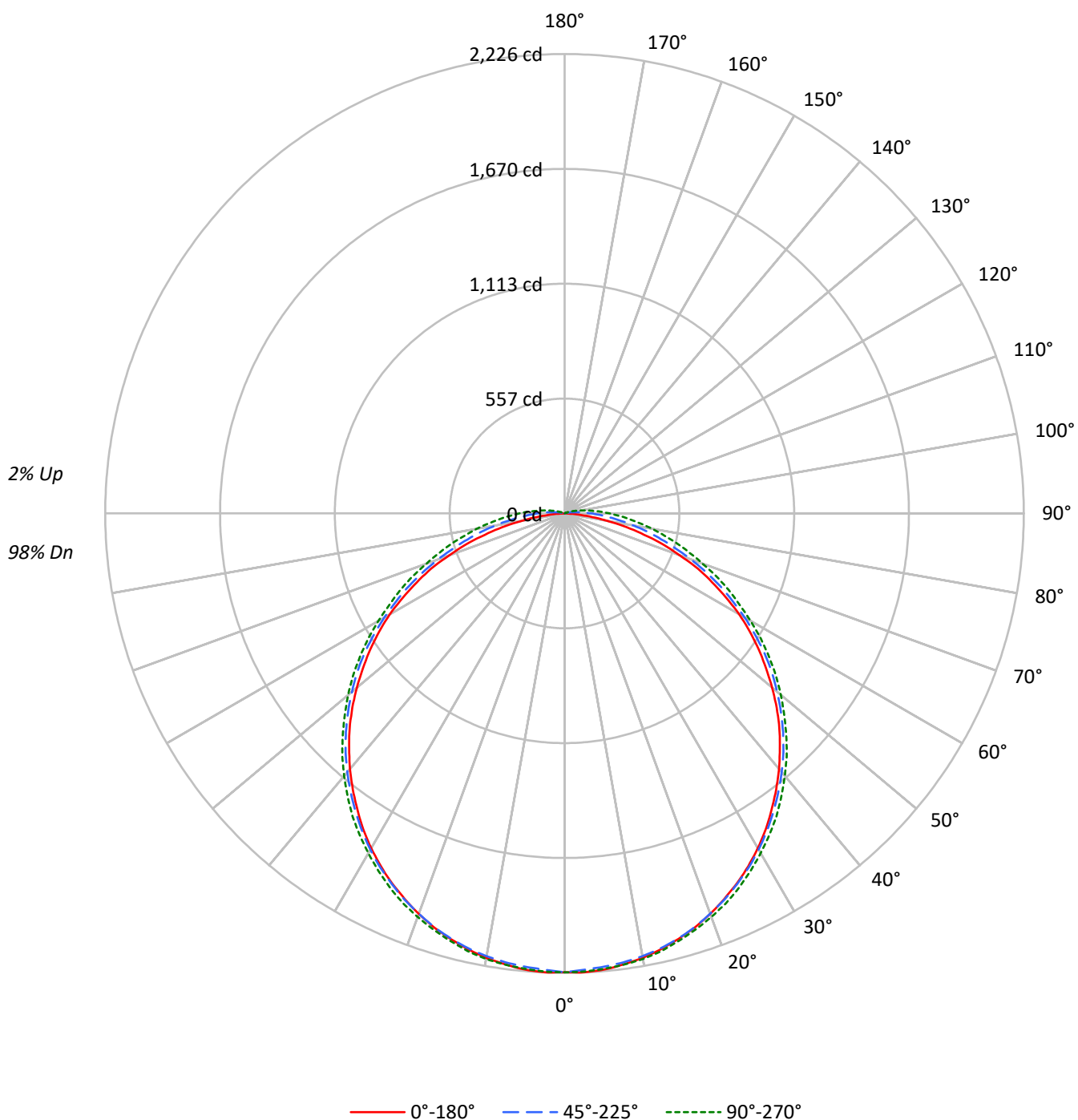
Input Watts (W): 65.2
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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: P518197

CATALOG NUMBER: HVL8-8-LD4-1STD-40-UNV-O-EDD-90

Luminous Intensity Polar Plot



TEST NUMBER: P518197

CATALOG NUMBER: HVL8-8-LD4-1STD-40-UNV-O-EDD-90

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°	4487	4487	4487
5°	4486	4392	4391
10°	4465	4319	4303
15°	4434	4237	4198
20°	4402	4145	4095
25°	4361	4050	3991
30°	4313	3948	3872
35°	4251	3836	3755
40°	4186	3717	3618
45°	4118	3588	3470
50°	4025	3438	3311
55°	3927	3273	3136
60°	3810	3056	2932
65°	3610	2814	2729
70°	3317	2527	2493
75°	2893	2212	2279
80°	2244	1904	2083
85°	1294	1594	1897

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 4118 cd/sqm

TEST NUMBER: P518197

CATALOG NUMBER: HVL8-8-LD4-1STD-40-UNV-O-EDD-90

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	210.4	3.1
10°-20°	603.5	9.0
20°-30°	915.7	13.6
30°-40°	1107.2	16.5
40°-50°	1155.3	17.2
50°-60°	1056.3	15.7
60°-70°	823.4	12.2
70°-80°	515.1	7.7
80°-90°	234.0	3.5
90°-100°	78.4	1.2
100°-110°	19.7	0.3
110°-120°	3.1	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°	1729.5	25.7
0°-40°	2836.8	42.2
0°-60°	5048.3	75.1
0°-90°	6620.8	98.5
90°-120°	101.2	1.5
90°-150°	101.2	1.5
90°-180°	101.0	1.5
0°-180°	6722.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2223	2223	2223	2223	2223	
5°	2218	2214	2204	2215	2215	211
15°	2134	2138	2132	2144	2144	602
25°	1977	1979	1981	1998	2001	911
35°	1750	1758	1766	1784	1791	1096
45°	1473	1486	1498	1513	1520	1135
55°	1149	1163	1184	1202	1210	1027
65°	790	803	831	864	878	781
75°	400	424	486	544	565	426
85°	69	128	220	290	316	88
90°	0	48	130	194	218	3
95°	0	13	67	122	140	0
105°	1	2	11	32	44	1
115°	2	2	2	6	8	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: P518197

CATALOG NUMBER: HVL8-8-LD4-1STD-40-UNV-O-EDD-90

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2223.2	2223.2	2223.2	2223.2	2223.2
2.5°	2225.9	2222.7	2212.7	2222.7	2222.2
5°	2218.5	2214.3	2204.4	2214.8	2214.8
7.5°	2203.8	2202.3	2193.4	2205.4	2205.4
10°	2186.5	2186.0	2178.7	2191.8	2192.3
12.5°	2162.4	2164.5	2157.7	2170.3	2171.9
15°	2134.1	2137.8	2132.0	2144.1	2143.6
17.5°	2103.2	2105.3	2101.1	2114.7	2114.2
20°	2065.0	2067.6	2064.4	2078.6	2080.2
22.5°	2022.5	2026.2	2025.6	2040.3	2044.5
25°	1977.4	1979.0	1981.1	1997.9	2001.0
27.5°	1927.6	1930.3	1933.9	1949.1	1952.3
30°	1873.1	1877.3	1881.5	1897.2	1901.4
32.5°	1815.5	1819.7	1824.9	1845.4	1847.5
35°	1750.5	1758.4	1765.7	1783.5	1790.8
37.5°	1685.5	1695.5	1702.3	1721.1	1726.9
40°	1616.8	1626.8	1637.8	1657.7	1661.4
42.5°	1545.0	1556.6	1569.7	1587.5	1593.8
45°	1472.7	1485.8	1497.9	1512.6	1519.9
47.5°	1394.6	1407.7	1422.4	1439.2	1443.9
50°	1313.9	1329.1	1344.8	1360.6	1368.9
52.5°	1231.1	1249.5	1267.3	1284.0	1291.9
55°	1149.4	1163.0	1184.5	1201.8	1209.6
57.5°	1064.4	1076.0	1095.4	1123.7	1127.9
60°	978.0	988.5	1008.4	1031.4	1040.9
62.5°	882.6	896.7	917.7	947.0	955.4
65°	789.8	803.4	831.2	864.2	877.9
67.5°	700.2	704.9	740.6	775.1	797.2
70°	594.3	612.1	653.6	696.0	712.8
72.5°	503.1	521.0	566.6	616.3	637.3
75°	399.9	424.5	486.4	544.5	565.0
77.5°	309.2	336.5	413.0	471.7	495.3
80°	215.9	258.4	341.7	407.7	433.4
82.5°	135.7	188.2	277.2	346.4	369.0
85°	69.2	127.9	219.6	290.4	316.0
87.5°	18.3	82.8	170.9	238.5	264.7
90°	0.5	47.7	129.5	194.4	218.0
92.5°	0.5	26.7	96.4	154.6	178.7
95°	0.5	12.6	67.1	121.6	140.5
97.5°	0.5	5.2	46.1	91.7	110.6
100°	0.5	2.6	29.3	66.6	82.8
102.5°	1.0	1.6	18.3	47.7	60.8
105°	1.0	1.6	11.0	32.5	43.5
107.5°	1.0	1.6	6.3	22.0	29.9
110°	1.6	1.6	3.7	13.6	19.9

TEST NUMBER: P518197

CATALOG NUMBER: HVL8-8-LD4-1STD-40-UNV-O-EDD-90

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	1.6	1.6	2.1	8.9	13.1
115°	1.6	1.6	2.1	5.8	8.4
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)