

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: P518208

Luminaire Tested: HVL8-8-LD4-2HI-35-UNV-C-EDD

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: P518208
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-8-LD4-2HI-35-UNV-C-EDD
Description: 8 FOOT, 8 INCH WIDE, HVL LED LUMINAIRE, WITH 3500K, 80 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

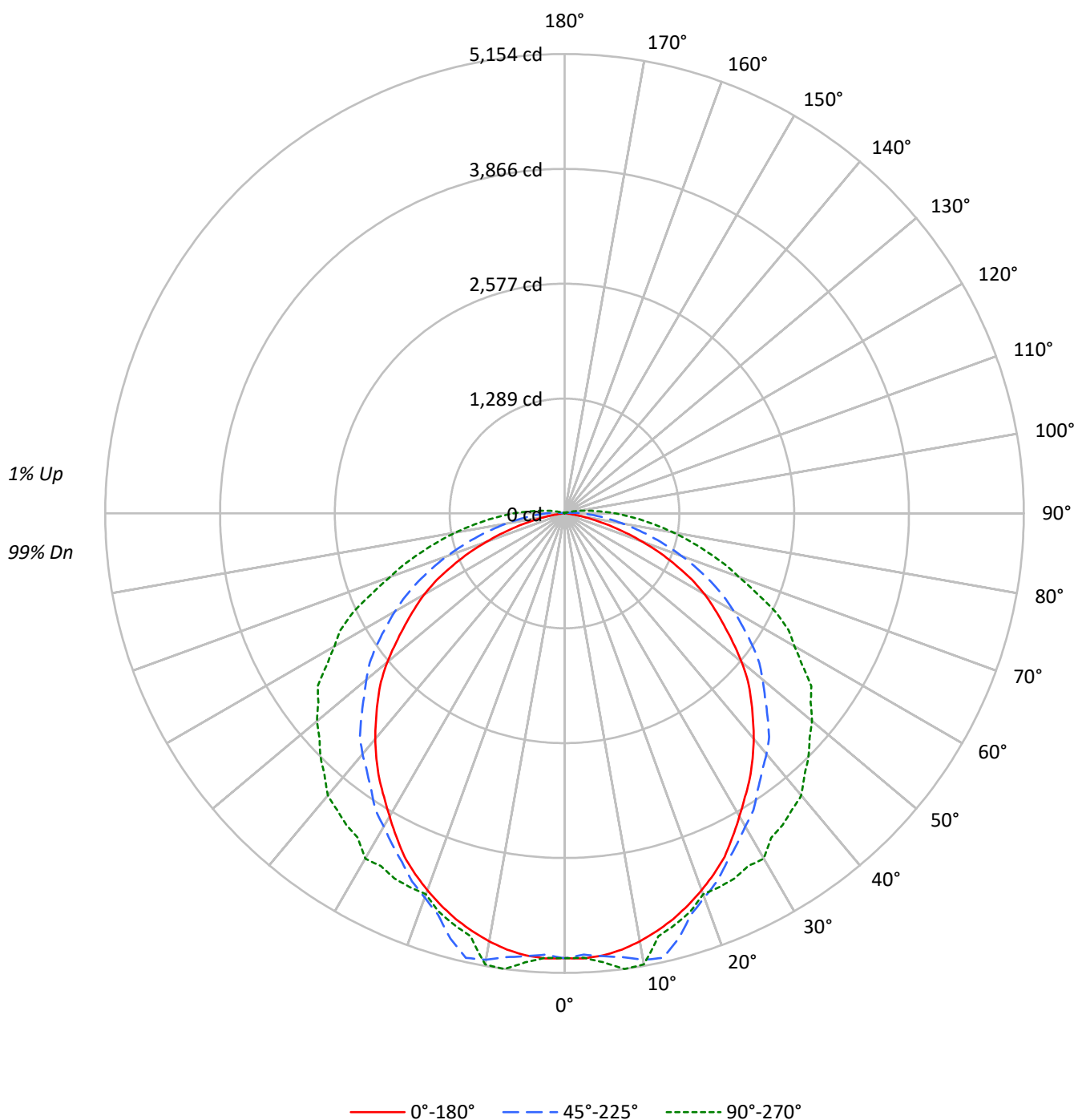
Lumens per Lamp: N/A
Luminaire Lumens: 15032.0 lumens
Efficiency: N/A
Efficacy: 87.2 lumens/watt
Spacing Criteria (0/90/45): 1.18 / 1.32 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.67' x L: 8' x H: 0.17')
CIE Type: Direct

Input Watts (W): 172.3
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: P518208
CATALOG NUMBER: HVL8-8-LD4-2HI-35-UNV-C-EDD

Luminous Intensity Polar Plot



TEST NUMBER: P518208

CATALOG NUMBER: HVL8-8-LD4-2HI-35-UNV-C-EDD

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			99
1	108	103	98	94	105	100	96	92	96	92	89	91	89	86	87	85	83			81
2	98	89	82	76	95	87	80	75	83	78	73	80	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	51	62	56	51	60	54	50			47
5	75	61	52	45	72	60	51	45	58	50	44	56	49	44	54	48	43			41
6	69	55	46	39	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°	10071	10071	10071
5°	10066	9932	10022
10°	9952	10079	10083
15°	9789	9818	9359
20°	9587	9208	8950
25°	9373	8821	9007
30°	9037	8510	9106
35°	8805	8217	8945
40°	8554	7999	9000
45°	8284	7716	8838
50°	7953	7418	8770
55°	7457	7099	8765
60°	7089	6658	8391
65°	6315	6128	8124
70°	5208	5435	7285
75°	3780	4590	6650
80°	2187	3737	5970
85°	875	2856	5259

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 45°

Luminance: 8838 cd/sqm

TEST NUMBER: P518208

CATALOG NUMBER: HVL8-8-LD4-2HI-35-UNV-C-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	479.6	3.2
10°-20°	1365.7	9.1
20°-30°	2032.0	13.5
30°-40°	2442.5	16.2
40°-50°	2570.9	17.1
50°-60°	2385.5	15.9
60°-70°	1886.2	12.5
70°-80°	1152.1	7.7
80°-90°	502.0	3.3
90°-100°	156.3	1.0
100°-110°	35.1	0.2
110°-120°	14.1	0.1
120°-130°	7.9	0.1
130°-140°	2.1	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°	3877.3	25.8
0°-40°	6319.8	42.0
0°-60°	11276.2	75.0
0°-90°	14816.4	98.6
90°-120°	205.5	1.4
90°-150°	215.5	1.4
90°-180°	216.0	1.4
0°-180°	15032.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4990	4990	4990	4990	4990	
5°	4978	4967	4985	5041	5055	472
15°	4711	4892	4940	4776	4779	1327
25°	4250	4521	4315	4444	4516	1951
35°	3626	3726	3782	4126	4266	2266
45°	2963	2976	3221	3731	3871	2284
55°	2182	2218	2570	3132	3381	1961
65°	1381	1425	1810	2396	2613	1368
75°	522	692	1009	1551	1649	570
85°	47	163	393	763	876	72
90°	1	49	206	484	570	2
95°	1	12	90	265	324	1
105°	1	7	18	52	73	1
115°	1	4	14	23	24	2
125°	1	2	6	15	21	2
135°	2	2	2	5	7	1
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: P518208

CATALOG NUMBER: HVL8-8-LD4-2HI-35-UNV-C-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4989.8	4989.8	4989.8	4989.8	4989.8
2.5°	4995.9	4982.7	4955.2	4981.7	4988.8
5°	4977.6	4967.4	4984.7	5040.6	5054.9
7.5°	4935.9	4974.6	5020.3	5121.9	5154.5
10°	4873.9	4947.1	5084.3	5170.7	5137.2
12.5°	4798.7	4922.7	5106.7	4938.0	4859.7
15°	4711.3	4892.2	4940.0	4776.3	4779.4
17.5°	4608.6	4866.8	4719.4	4715.4	4685.9
20°	4497.8	4781.4	4586.3	4578.1	4546.6
22.5°	4378.9	4668.6	4468.4	4452.1	4537.5
25°	4249.8	4521.2	4314.9	4444.0	4516.1
27.5°	4088.2	4328.1	4186.8	4369.8	4460.2
30°	3924.6	4128.9	4055.7	4310.8	4471.4
32.5°	3771.1	3920.5	3947.9	4288.4	4314.9
35°	3625.7	3726.3	3782.3	4125.8	4266.1
37.5°	3466.1	3493.6	3642.0	4057.7	4192.9
40°	3303.5	3286.2	3524.1	3945.9	4132.9
42.5°	3128.7	3122.6	3399.0	3890.0	3983.5
45°	2963.0	2976.2	3221.2	3731.4	3870.7
47.5°	2793.2	2810.5	3052.4	3557.6	3730.4
50°	2596.0	2618.4	2902.0	3403.1	3625.7
52.5°	2382.6	2425.3	2755.6	3256.7	3481.4
55°	2182.3	2217.9	2569.6	3131.7	3380.7
57.5°	1999.4	2020.7	2377.5	2974.2	3162.2
60°	1819.5	1824.5	2196.6	2799.3	2979.2
62.5°	1613.1	1622.3	2010.6	2593.0	2833.9
65°	1381.4	1425.1	1810.3	2395.8	2613.3
67.5°	1164.9	1241.1	1606.0	2214.9	2328.7
70°	933.1	1062.2	1405.8	2002.4	2082.7
72.5°	720.7	872.1	1200.4	1764.6	1877.4
75°	522.5	692.2	1009.3	1551.1	1648.7
77.5°	351.7	524.5	830.4	1315.3	1444.4
80°	210.4	383.2	670.9	1096.8	1242.1
82.5°	107.7	257.2	520.4	919.9	1050.0
85°	46.8	162.6	393.4	763.4	876.2
87.5°	13.2	92.5	289.7	617.0	712.5
90°	1.0	48.8	206.3	483.8	570.2
92.5°	1.0	23.4	145.4	365.9	432.0
95°	1.0	12.2	90.5	265.3	324.3
97.5°	1.0	7.1	54.9	188.0	237.9
100°	1.0	6.1	32.5	125.0	169.7
102.5°	1.0	7.1	22.4	79.3	110.8
105°	1.0	7.1	18.3	51.8	73.2
107.5°	2.0	7.1	16.3	38.6	50.8
110°	1.0	6.1	17.3	29.5	39.6

TEST NUMBER: P518208

CATALOG NUMBER: HVL8-8-LD4-2HI-35-UNV-C-EDD

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	2.0	5.1	16.3	24.4	29.5
115°	1.0	4.1	14.2	23.4	24.4
117.5°	2.0	3.0	11.2	23.4	24.4
120°	2.0	2.0	9.1	22.4	25.4
122.5°	2.0	2.0	7.1	20.3	24.4
125°	1.0	2.0	6.1	15.2	21.3
127.5°	2.0	2.0	5.1	12.2	16.3
130°	2.0	2.0	4.1	9.1	12.2
132.5°	2.0	2.0	3.0	7.1	9.1
135°	2.0	2.0	2.0	5.1	7.1
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)