

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: P518152

Luminaire Tested: HVL8-4-LD4-3STD-50-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: P518152
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-4-LD4-3STD-50-UNV-C-EDD
Description: 4 FOOT, 8 INCH WIDE, HVL LED LUMINAIRE, WITH 5000K, 80 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 11306.0 lumens
Efficiency: N/A
Efficacy: 118.4 lumens/watt
Spacing Criteria (0/90/45): 1.18 / 1.32 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.67' x L: 4' x H: 0.17')
CIE Type: Direct

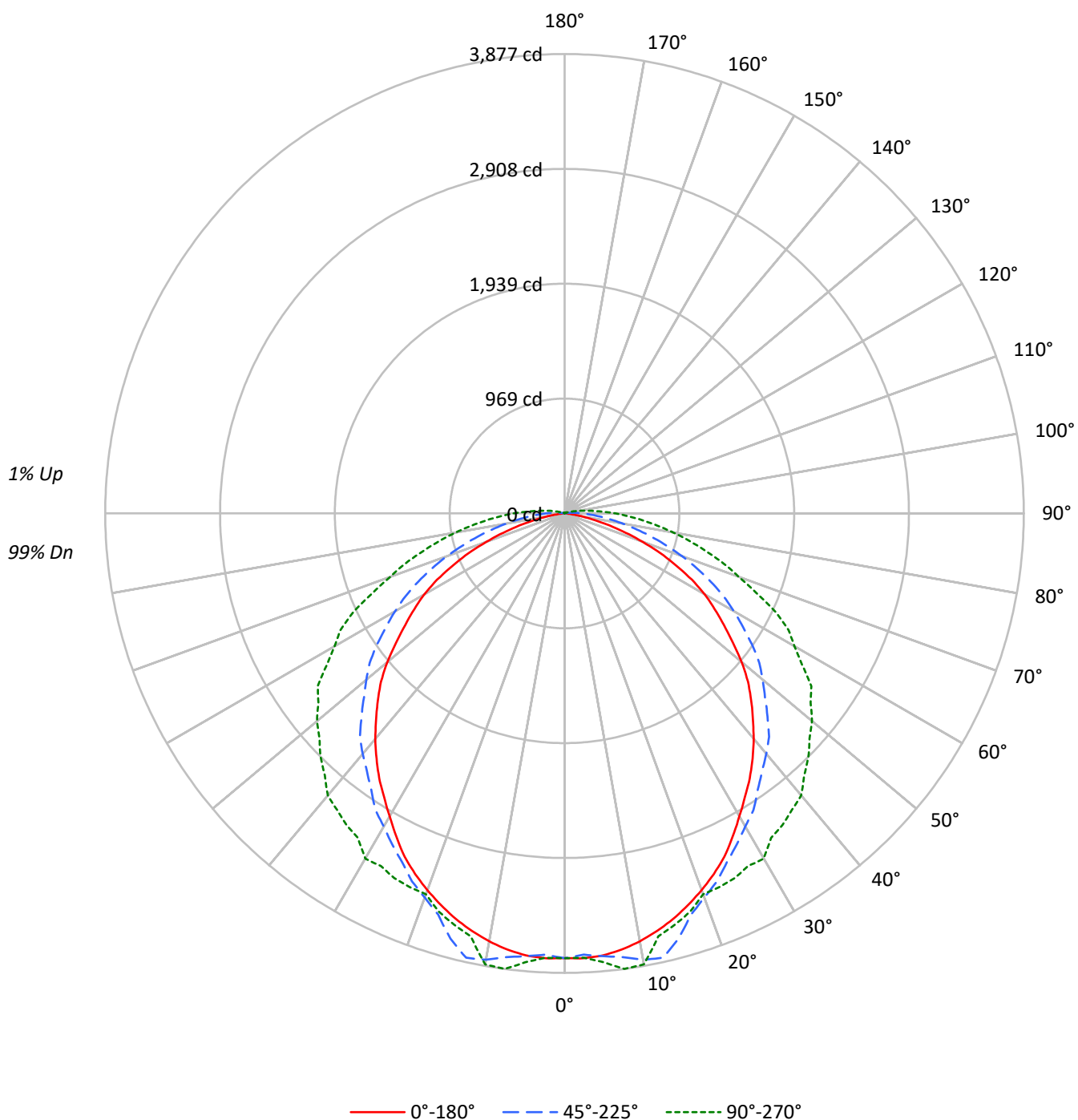
Input Watts (W): 95.5
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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: P518152

CATALOG NUMBER: HVL8-4-LD4-3STD-50-UNV-C-EDD

Luminous Intensity Polar Plot



TEST NUMBER: P518152

CATALOG NUMBER: HVL8-4-LD4-3STD-50-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
RCR																	
0	119	119	119	119	116	116	116	116	110	110	110		105	105	105		101
1	108	103	98	94	105	100	96	92	96	92	89		91	89	86		87
2	98	89	82	76	95	87	80	75	83	78	73		80	75	71		76
3	89	78	69	63	86	76	68	62	73	66	61		70	64	59		67
4	81	69	60	53	79	67	59	52	65	57	51		62	56	51		60
5	75	61	52	45	72	60	51	45	58	50	44		56	49	44		54
6	69	55	46	39	67	54	46	39	52	45	39		50	44	38		49
7	64	50	41	35	62	49	41	35	47	40	34		46	39	34		44
8	59	46	37	31	58	45	37	31	43	36	31		42	35	30		41
9	55	42	34	28	54	41	33	28	40	33	28		39	32	27		38
10	52	39	31	25	51	38	30	25	37	30	25		36	29	25		35

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	15149	15149	15149
5°	15114	14922	15075
10°	14916	15124	15168
15°	14644	14713	14078
20°	14315	13783	13464
25°	13965	13185	13548
30°	13435	12705	13698
35°	13057	12248	13455
40°	12650	11906	13539
45°	12212	11465	13295
50°	11681	11002	13193
55°	10902	10506	13186
60°	10304	9826	12623
65°	9109	9016	12221
70°	7432	7964	10959
75°	5304	6690	10003
80°	2976	5406	8980
85°	1104	4081	7911

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 45°

Luminance: 13295 cd/sqm

TEST NUMBER: P518152

CATALOG NUMBER: HVL8-4-LD4-3STD-50-UNV-C-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	360.7	3.2
10°-20°	1027.2	9.1
20°-30°	1528.4	13.5
30°-40°	1837.1	16.2
40°-50°	1933.6	17.1
50°-60°	1794.2	15.9
60°-70°	1418.6	12.5
70°-80°	866.5	7.7
80°-90°	377.5	3.3
90°-100°	117.5	1.0
100°-110°	26.4	0.2
110°-120°	10.6	0.1
120°-130°	6.0	0.1
130°-140°	1.6	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°	2916.3	25.8
0°-40°	4753.3	42.0
0°-60°	8481.2	75.0
0°-90°	11143.9	98.6
90°-120°	154.6	1.4
90°-150°	162.1	1.4
90°-180°	162.0	1.4
0°-180°	11306.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3753	3753	3753	3753	3753	
5°	3744	3736	3749	3791	3802	355
15°	3544	3680	3716	3592	3595	998
25°	3196	3400	3245	3342	3397	1467
35°	2727	2803	2845	3103	3209	1704
45°	2228	2238	2423	2806	2911	1718
55°	1641	1668	1933	2356	2543	1475
65°	1039	1072	1362	1802	1966	1029
75°	393	521	759	1167	1240	429
85°	35	122	296	574	659	54
90°	1	37	155	364	429	2
95°	1	9	68	200	244	1
105°	1	5	14	39	55	1
115°	1	3	11	18	18	1
125°	1	2	5	12	16	1
135°	2	2	2	4	5	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: P518152

CATALOG NUMBER: HVL8-4-LD4-3STD-50-UNV-C-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3753.0	3753.0	3753.0	3753.0	3753.0
2.5°	3757.6	3747.6	3727.0	3746.9	3752.2
5°	3743.8	3736.2	3749.2	3791.2	3801.9
7.5°	3712.5	3741.5	3775.9	3852.4	3876.8
10°	3665.8	3720.9	3824.1	3889.1	3863.8
12.5°	3609.2	3702.5	3840.9	3714.0	3655.1
15°	3543.5	3679.6	3715.5	3592.4	3594.7
17.5°	3466.3	3660.5	3549.6	3546.6	3524.4
20°	3383.0	3596.3	3449.5	3443.4	3419.7
22.5°	3293.5	3511.4	3360.8	3348.6	3412.8
25°	3196.4	3400.5	3245.3	3342.4	3396.7
27.5°	3074.9	3255.3	3149.0	3286.6	3354.7
30°	2951.8	3105.4	3050.4	3242.3	3363.1
32.5°	2836.3	2948.7	2969.4	3225.5	3245.3
35°	2727.0	2802.7	2844.7	3103.1	3208.6
37.5°	2607.0	2627.6	2739.2	3051.9	3153.6
40°	2484.7	2471.7	2650.6	2967.8	3108.5
42.5°	2353.2	2348.6	2556.5	2925.8	2996.1
45°	2228.5	2238.5	2422.7	2806.5	2911.3
47.5°	2100.9	2113.9	2295.8	2675.8	2805.7
50°	1952.6	1969.4	2182.7	2559.6	2727.0
52.5°	1792.0	1824.1	2072.6	2449.5	2618.4
55°	1641.4	1668.2	1932.7	2355.5	2542.8
57.5°	1503.8	1519.8	1788.2	2237.0	2378.4
60°	1368.5	1372.3	1652.1	2105.5	2240.8
62.5°	1213.3	1220.2	1512.2	1950.3	2131.5
65°	1039.0	1071.8	1361.6	1801.9	1965.6
67.5°	876.1	933.5	1207.9	1665.9	1751.5
70°	701.8	798.9	1057.3	1506.1	1566.5
72.5°	542.0	655.9	902.9	1327.2	1412.0
75°	393.0	520.6	759.2	1166.6	1240.0
77.5°	264.5	394.5	624.6	989.3	1086.4
80°	158.3	288.2	504.6	824.9	934.2
82.5°	81.0	193.4	391.4	691.9	789.7
85°	35.2	122.3	295.9	574.1	659.0
87.5°	9.9	69.6	217.9	464.1	535.9
90°	0.8	36.7	155.2	363.9	428.9
92.5°	0.8	17.6	109.3	275.2	324.9
95°	0.8	9.2	68.0	199.5	243.9
97.5°	0.8	5.4	41.3	141.4	178.9
100°	0.8	4.6	24.5	94.0	127.7
102.5°	0.8	5.4	16.8	59.6	83.3
105°	0.8	5.4	13.8	39.0	55.0
107.5°	1.5	5.4	12.2	29.1	38.2
110°	0.8	4.6	13.0	22.2	29.8

TEST NUMBER: P518152

CATALOG NUMBER: HVL8-4-LD4-3STD-50-UNV-C-EDD

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	1.5	3.8	12.2	18.3	22.2
115°	0.8	3.1	10.7	17.6	18.3
117.5°	1.5	2.3	8.4	17.6	18.3
120°	1.5	1.5	6.9	16.8	19.1
122.5°	1.5	1.5	5.4	15.3	18.3
125°	0.8	1.5	4.6	11.5	16.1
127.5°	1.5	1.5	3.8	9.2	12.2
130°	1.5	1.5	3.1	6.9	9.2
132.5°	1.5	1.5	2.3	5.4	6.9
135°	1.5	1.5	1.5	3.8	5.4
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)