

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: P517834

Luminaire Tested: HVL8-1-LD4-3HI-50-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: P517834
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-1-LD4-3HI-50-UNV-O-EDD
Description: 1 FOOT, 8 INCH WIDE, HVL LED LUMINAIRE, WITH 5000K, 80 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3294.0 lumens
Efficiency: N/A
Efficacy: 104.6 lumens/watt
Spacing Criteria (0/90/45): 1.25 / 1.27 / 1.38
Luminous Opening: Rectangular w/ Sides (W: 0.67' x L: 1' x H: 0.17')
CIE Type: Direct

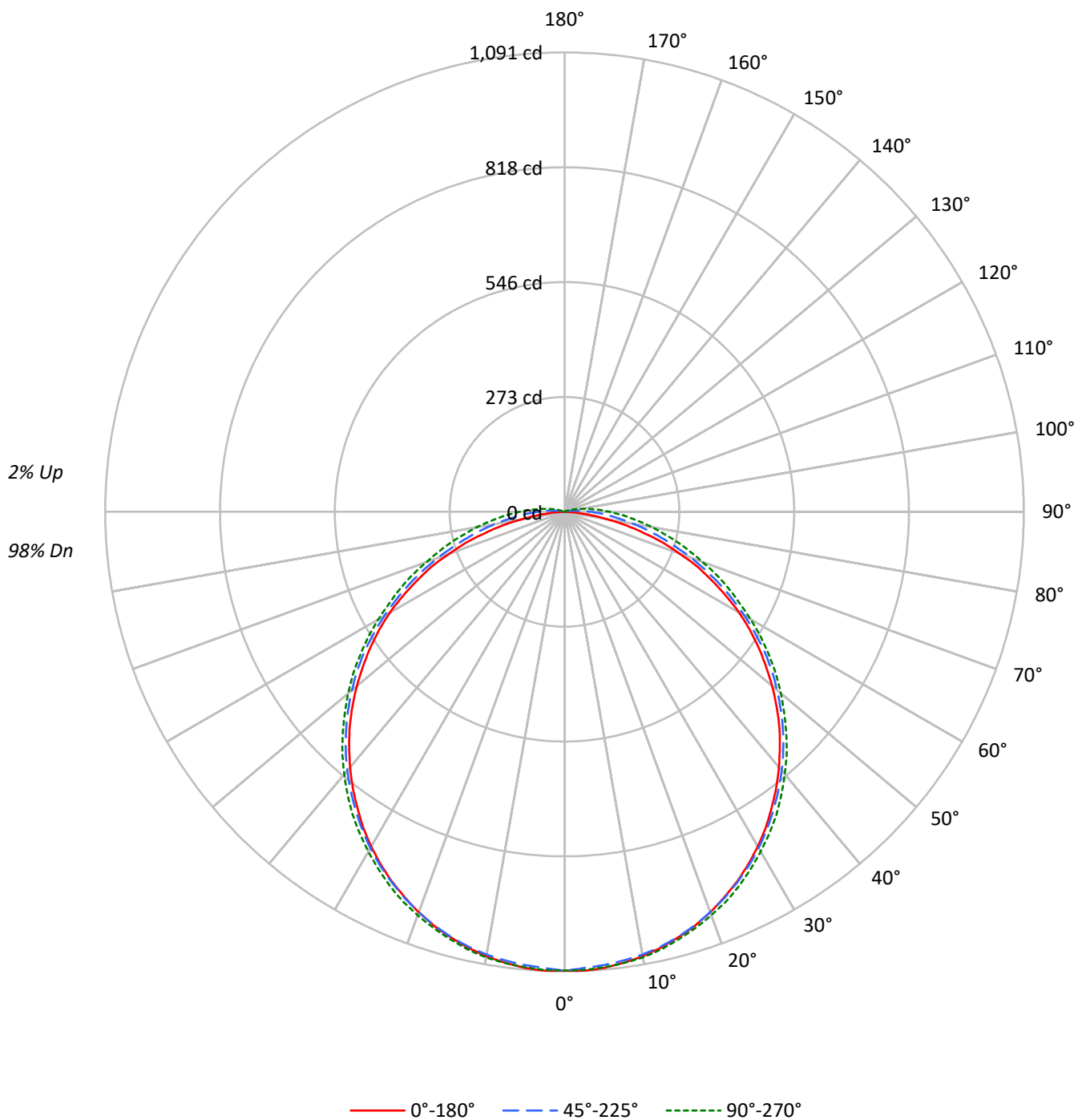
Input Watts (W): 31.5
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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

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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
RCR																	
0	119	119	119	119	116	116	116	116	110	110	110		105	105	105		101
1	108	102	98	94	105	100	96	92	95	92	89		91	88	86		87
2	98	89	82	76	95	87	80	75	83	77	73		79	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	52		62	56	51		60
5	75	61	52	45	72	60	52	45	58	50	44		56	49	44		54
6	69	55	46	40	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°	17591	17591	17591
5°	17366	17067	17213
10°	17066	16639	16869
15°	16734	16186	16455
20°	16392	15698	16053
25°	16018	15205	15645
30°	15611	14690	15181
35°	15140	14137	14721
40°	14650	13563	14183
45°	14125	12945	13605
50°	13493	12251	12981
55°	12805	11499	12296
60°	12007	10564	11494
65°	10892	9535	10699
70°	9428	8356	9774
75°	7538	7080	8935
80°	5057	5830	8167
85°	2162	4563	7438

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 14125 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	103.1	3.1
10°-20°	295.7	9.0
20°-30°	448.7	13.6
30°-40°	542.6	16.5
40°-50°	566.1	17.2
50°-60°	517.6	15.7
60°-70°	403.5	12.2
70°-80°	252.4	7.7
80°-90°	114.7	3.5
90°-100°	38.4	1.2
100°-110°	9.7	0.3
110°-120°	1.5	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°	847.5	25.7
0°-40°	1390.1	42.2
0°-60°	2473.8	75.1
0°-90°	3244.4	98.5
90°-120°	49.6	1.5
90°-150°	49.6	1.5
90°-180°	50.0	1.5
0°-180°	3294.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1090	1090	1090	1090	1090	
5°	1087	1085	1080	1085	1085	103
15°	1046	1048	1045	1051	1050	295
25°	969	970	971	979	981	447
35°	858	862	865	874	878	537
45°	722	728	734	741	745	556
55°	563	570	580	589	593	503
65°	387	394	407	424	430	383
75°	196	208	238	267	277	209
85°	34	63	108	142	155	43
90°	0	23	63	95	107	1
95°	0	6	33	60	69	0
105°	0	1	5	16	21	1
115°	1	1	1	3	4	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

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1089.5	1089.5	1089.5	1089.5	1089.5
2.5°	1090.7	1089.2	1084.3	1089.2	1088.9
5°	1087.1	1085.1	1080.2	1085.3	1085.3
7.5°	1080.0	1079.2	1074.8	1080.7	1080.7
10°	1071.5	1071.2	1067.6	1074.0	1074.3
12.5°	1059.7	1060.7	1057.4	1063.5	1064.3
15°	1045.8	1047.6	1044.8	1050.7	1050.4
17.5°	1030.6	1031.7	1029.6	1036.3	1036.0
20°	1011.9	1013.2	1011.6	1018.6	1019.3
22.5°	991.1	992.9	992.6	999.8	1001.9
25°	969.0	969.8	970.8	979.0	980.6
27.5°	944.6	945.9	947.7	955.1	956.7
30°	917.9	920.0	922.0	929.7	931.8
32.5°	889.6	891.7	894.3	904.3	905.3
35°	857.8	861.7	865.2	874.0	877.6
37.5°	826.0	830.8	834.2	843.4	846.2
40°	792.3	797.2	802.6	812.3	814.1
42.5°	757.1	762.8	769.2	777.9	781.0
45°	721.7	728.1	734.0	741.2	744.8
47.5°	683.4	689.8	697.0	705.2	707.6
50°	643.9	651.3	659.0	666.7	670.8
52.5°	603.3	612.3	621.0	629.2	633.1
55°	563.2	569.9	580.4	588.9	592.8
57.5°	521.6	527.3	536.8	550.6	552.7
60°	479.2	484.4	494.1	505.4	510.1
62.5°	432.5	439.4	449.7	464.1	468.2
65°	387.0	393.7	407.3	423.5	430.2
67.5°	343.1	345.4	362.9	379.8	390.6
70°	291.2	300.0	320.3	341.1	349.3
72.5°	246.6	255.3	277.6	302.0	312.3
75°	196.0	208.0	238.3	266.8	276.9
77.5°	151.5	164.9	202.4	231.1	242.7
80°	105.8	126.6	167.5	199.8	212.4
82.5°	66.5	92.2	135.9	169.8	180.8
85°	33.9	62.7	107.6	142.3	154.9
87.5°	9.0	40.6	83.7	116.9	129.7
90°	0.3	23.4	63.4	95.3	106.8
92.5°	0.3	13.1	47.3	75.8	87.6
95°	0.3	6.2	32.9	59.6	68.8
97.5°	0.3	2.6	22.6	44.9	54.2
100°	0.3	1.3	14.4	32.6	40.6
102.5°	0.5	0.8	9.0	23.4	29.8
105°	0.5	0.8	5.4	15.9	21.3
107.5°	0.5	0.8	3.1	10.8	14.6
110°	0.8	0.8	1.8	6.7	9.8

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.8	0.8	1.0	4.4	6.4
115°	0.8	0.8	1.0	2.8	4.1
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)