

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: P517958

Luminaire Tested: HVL8-2-LD4-2STD-40-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: P517958
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-2-LD4-2STD-40-UNV-O-EDD
Description: 2 FOOT, 8 INCH WIDE, HVL LED LUMINAIRE, WITH 4000K, 80 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2682.0 lumens
Efficiency: N/A
Efficacy: 82.0 lumens/watt
Spacing Criteria (0/90/45): 1.25 / 1.27 / 1.38
Luminous Opening: Rectangular w/ Sides (W: 0.67' x L: 2' x H: 0.17')
CIE Type: Direct

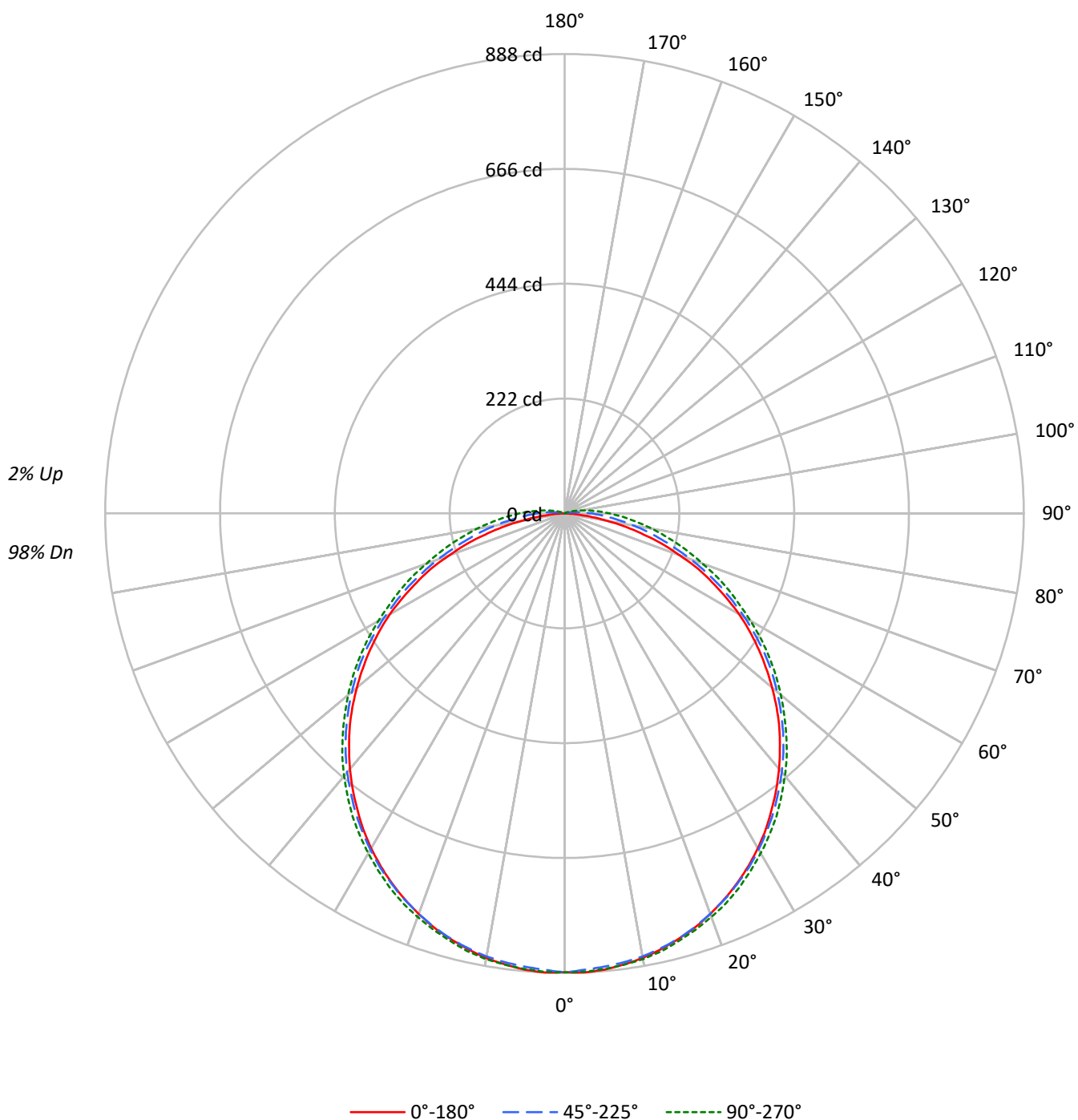
Input Watts (W): 32.7
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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°	7161	7161	7161
5°	7122	6983	7008
10°	7048	6842	6868
15°	6961	6687	6699
20°	6870	6517	6536
25°	6765	6343	6369
30°	6647	6160	6180
35°	6503	5959	5992
40°	6354	5750	5774
45°	6192	5521	5538
50°	5989	5261	5285
55°	5768	4976	5005
60°	5505	4612	4679
65°	5106	4207	4356
70°	4554	3736	3979
75°	3797	3221	3637
80°	2721	2711	3324
85°	1309	2196	3027

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 6192 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	83.9	3.1
10°-20°	240.8	9.0
20°-30°	365.3	13.6
30°-40°	441.8	16.5
40°-50°	460.9	17.2
50°-60°	421.4	15.7
60°-70°	328.5	12.3
70°-80°	205.5	7.7
80°-90°	93.3	3.5
90°-100°	31.3	1.2
100°-110°	7.8	0.3
110°-120°	1.2	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°	690.1	25.7
0°-40°	1131.8	42.2
0°-60°	2014.2	75.1
0°-90°	2641.6	98.5
90°-120°	40.4	1.5
90°-150°	40.4	1.5
90°-180°	40.0	1.5
0°-180°	2682.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	887	887	887	887	887	
5°	885	884	880	884	884	84
15°	852	853	851	856	855	240
25°	789	790	790	797	798	364
35°	698	702	704	712	714	437
45°	588	593	598	604	606	453
55°	459	464	473	480	483	410
65°	315	321	332	345	350	312
75°	160	169	194	217	225	170
85°	28	51	88	116	126	35
90°	0	19	52	78	87	1
95°	0	5	27	48	56	0
105°	0	1	4	13	17	0
115°	1	1	1	2	3	0
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: P517958

CATALOG NUMBER: HVL8-2-LD4-2STD-40-UNV-O-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	887.0	887.0	887.0	887.0	887.0
2.5°	888.1	886.8	882.9	886.8	886.6
5°	885.2	883.5	879.5	883.7	883.7
7.5°	879.3	878.7	875.1	879.9	879.9
10°	872.4	872.2	869.3	874.5	874.7
12.5°	862.8	863.6	860.9	865.9	866.6
15°	851.5	853.0	850.7	855.5	855.3
17.5°	839.2	840.0	838.3	843.8	843.5
20°	823.9	824.9	823.7	829.3	830.0
22.5°	807.0	808.4	808.2	814.1	815.7
25°	789.0	789.6	790.4	797.1	798.4
27.5°	769.1	770.2	771.6	777.7	778.9
30°	747.4	749.0	750.7	757.0	758.7
32.5°	724.4	726.0	728.1	736.3	737.1
35°	698.4	701.6	704.5	711.6	714.5
37.5°	672.5	676.5	679.2	686.7	689.0
40°	645.1	649.1	653.5	661.4	662.9
42.5°	616.5	621.1	626.3	633.4	635.9
45°	587.6	592.8	597.6	603.5	606.4
47.5°	556.4	561.7	567.5	574.2	576.1
50°	524.2	530.3	536.6	542.8	546.2
52.5°	491.2	498.5	505.6	512.3	515.5
55°	458.6	464.0	472.6	479.5	482.6
57.5°	424.7	429.3	437.0	448.3	450.0
60°	390.2	394.4	402.3	411.5	415.3
62.5°	352.1	357.8	366.2	377.9	381.2
65°	315.1	320.6	331.6	344.8	350.3
67.5°	279.4	281.3	295.5	309.3	318.1
70°	237.1	244.2	260.8	277.7	284.4
72.5°	200.7	207.9	226.0	245.9	254.3
75°	159.6	169.4	194.1	217.3	225.4
77.5°	123.4	134.2	164.8	188.2	197.6
80°	86.2	103.1	136.3	162.7	172.9
82.5°	54.2	75.1	110.6	138.2	147.2
85°	27.6	51.0	87.6	115.8	126.1
87.5°	7.3	33.0	68.2	95.1	105.6
90°	0.2	19.0	51.7	77.6	87.0
92.5°	0.2	10.7	38.5	61.7	71.3
95°	0.2	5.0	26.8	48.5	56.0
97.5°	0.2	2.1	18.4	36.6	44.1
100°	0.2	1.0	11.7	26.6	33.0
102.5°	0.4	0.6	7.3	19.0	24.3
105°	0.4	0.6	4.4	13.0	17.4
107.5°	0.4	0.6	2.5	8.8	11.9
110°	0.6	0.6	1.5	5.4	7.9

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.6	0.6	0.8	3.6	5.2
115°	0.6	0.6	0.8	2.3	3.3
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)