

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: P517899

Luminaire Tested: HVL8-2-LD4-1STD-30-UNV-C-EDD-90

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: P517899
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-2-LD4-1STD-30-UNV-C-EDD-90
Description: 2 FOOT, 8 INCH WIDE, HVL LED LUMINAIRE, WITH 3000K, 90 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1516.9 lumens
Efficiency: N/A
Efficacy: 93.1 lumens/watt
Spacing Criteria (0/90/45): 1.18 / 1.32 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.67' x L: 2' x H: 0.17')
CIE Type: Direct

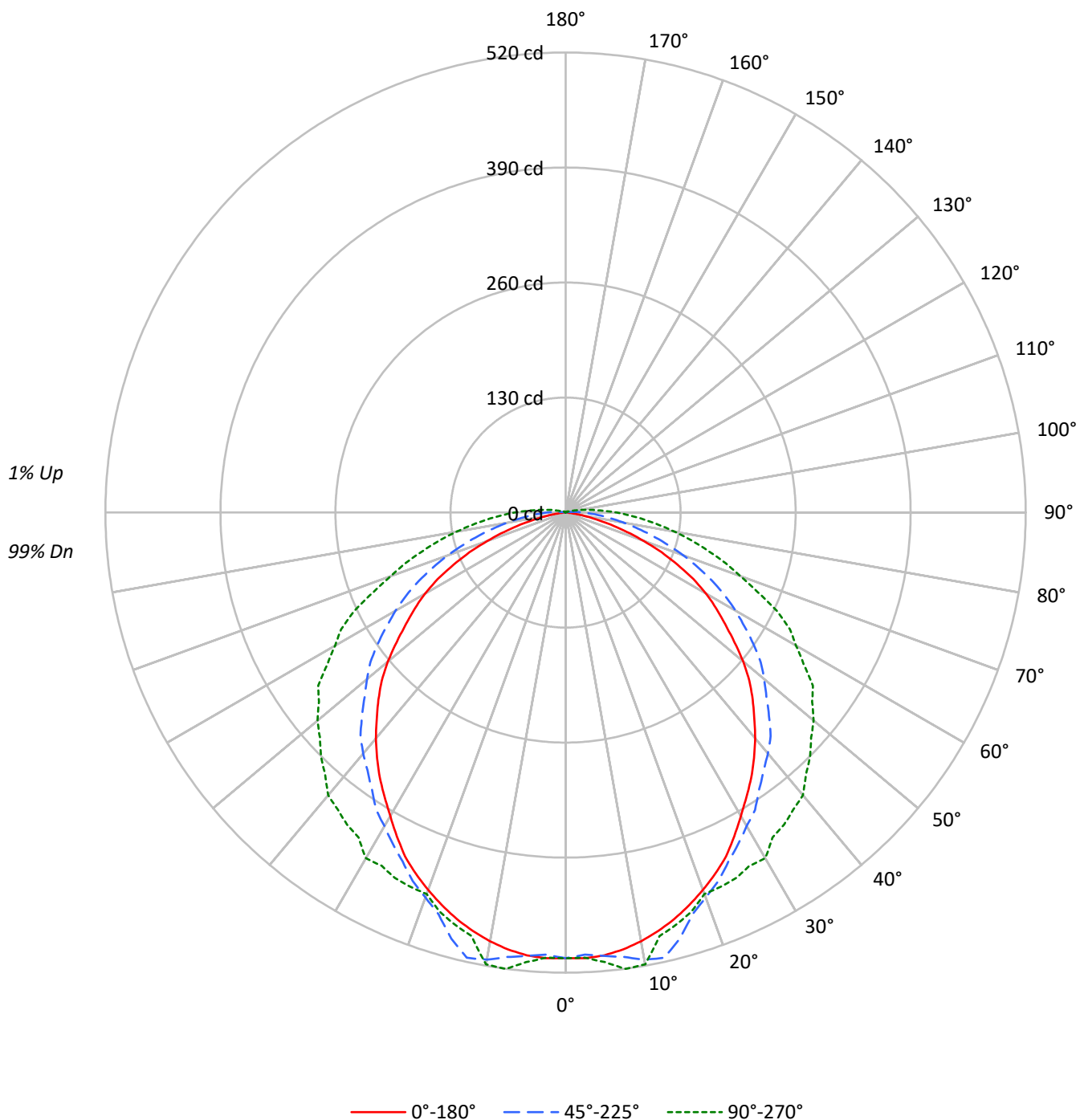
Input Watts (W): 16.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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

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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	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°	4066	4066	4066
5°	4041	3994	4045
10°	3974	4038	4070
15°	3887	3919	3778
20°	3785	3662	3613
25°	3677	3494	3636
30°	3523	3358	3675
35°	3407	3229	3611
40°	3284	3129	3633
45°	3151	3004	3567
50°	2993	2872	3540
55°	2770	2730	3539
60°	2590	2542	3388
65°	2259	2318	3279
70°	1809	2033	2941
75°	1254	1691	2685
80°	669	1347	2411
85°	223	995	2122

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 45°

Luminance: 3567 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	48.4	3.2
10°-20°	137.8	9.1
20°-30°	205.1	13.5
30°-40°	246.5	16.2
40°-50°	259.4	17.1
50°-60°	240.7	15.9
60°-70°	190.3	12.5
70°-80°	116.3	7.7
80°-90°	50.6	3.3
90°-100°	15.8	1.0
100°-110°	3.5	0.2
110°-120°	1.4	0.1
120°-130°	0.8	0.1
130°-140°	0.2	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°	391.3	25.8
0°-40°	637.8	42.0
0°-60°	1137.9	75.0
0°-90°	1495.2	98.6
90°-120°	20.7	1.4
90°-150°	21.7	1.4
90°-180°	22.0	1.5
0°-180°	1516.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	504	504	504	504	504	
5°	502	501	503	509	510	48
15°	476	494	498	482	482	134
25°	429	456	435	448	456	197
35°	366	376	382	416	430	229
45°	299	300	325	377	391	230
55°	220	224	259	316	341	198
65°	139	144	183	242	264	138
75°	53	70	102	156	166	58
85°	5	16	40	77	88	7
90°	0	5	21	49	58	0
95°	0	1	9	27	33	0
105°	0	1	2	5	7	0
115°	0	0	1	2	2	0
125°	0	0	1	2	2	0
135°	0	0	0	0	1	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°	503.6	503.6	503.6	503.6	503.6
2.5°	504.2	502.8	500.1	502.7	503.5
5°	502.3	501.3	503.0	508.7	510.1
7.5°	498.1	502.0	506.6	516.9	520.2
10°	491.9	499.3	513.1	521.8	518.4
12.5°	484.3	496.8	515.4	498.3	490.4
15°	475.5	493.7	498.5	482.0	482.3
17.5°	465.1	491.1	476.3	475.9	472.9
20°	453.9	482.5	462.8	462.0	458.8
22.5°	441.9	471.1	450.9	449.3	457.9
25°	428.9	456.3	435.4	448.5	455.8
27.5°	412.6	436.8	422.5	441.0	450.1
30°	396.1	416.7	409.3	435.0	451.2
32.5°	380.6	395.6	398.4	432.8	435.4
35°	365.9	376.1	381.7	416.4	430.5
37.5°	349.8	352.6	367.5	409.5	423.1
40°	333.4	331.6	355.6	398.2	417.1
42.5°	315.7	315.1	343.0	392.6	402.0
45°	299.0	300.4	325.1	376.6	390.6
47.5°	281.9	283.6	308.0	359.0	376.5
50°	262.0	264.2	292.9	343.4	365.9
52.5°	240.4	244.8	278.1	328.7	351.3
55°	220.2	223.8	259.3	316.0	341.2
57.5°	201.8	203.9	239.9	300.1	319.1
60°	183.6	184.1	221.7	282.5	300.7
62.5°	162.8	163.7	202.9	261.7	286.0
65°	139.4	143.8	182.7	241.8	263.7
67.5°	117.6	125.2	162.1	223.5	235.0
70°	94.2	107.2	141.9	202.1	210.2
72.5°	72.7	88.0	121.1	178.1	189.5
75°	52.7	69.9	101.9	156.5	166.4
77.5°	35.5	52.9	83.8	132.7	145.8
80°	21.2	38.7	67.7	110.7	125.4
82.5°	10.9	26.0	52.5	92.8	106.0
85°	4.7	16.4	39.7	77.0	88.4
87.5°	1.3	9.3	29.2	62.3	71.9
90°	0.1	4.9	20.8	48.8	57.5
92.5°	0.1	2.4	14.7	36.9	43.6
95°	0.1	1.2	9.1	26.8	32.7
97.5°	0.1	0.7	5.5	19.0	24.0
100°	0.1	0.6	3.3	12.6	17.1
102.5°	0.1	0.7	2.3	8.0	11.2
105°	0.1	0.7	1.8	5.2	7.4
107.5°	0.2	0.7	1.6	3.9	5.1
110°	0.1	0.6	1.7	3.0	4.0

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.2	0.5	1.6	2.5	3.0
115°	0.1	0.4	1.4	2.4	2.5
117.5°	0.2	0.3	1.1	2.4	2.5
120°	0.2	0.2	0.9	2.3	2.6
122.5°	0.2	0.2	0.7	2.1	2.5
125°	0.1	0.2	0.6	1.5	2.2
127.5°	0.2	0.2	0.5	1.2	1.6
130°	0.2	0.2	0.4	0.9	1.2
132.5°	0.2	0.2	0.3	0.7	0.9
135°	0.2	0.2	0.2	0.5	0.7
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)