

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: P517901

Luminaire Tested: HVL8-2-LD4-1STD-30-UNV-O-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: P517901
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-O-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: 1585.0 lumens
Efficiency: N/A
Efficacy: 97.2 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

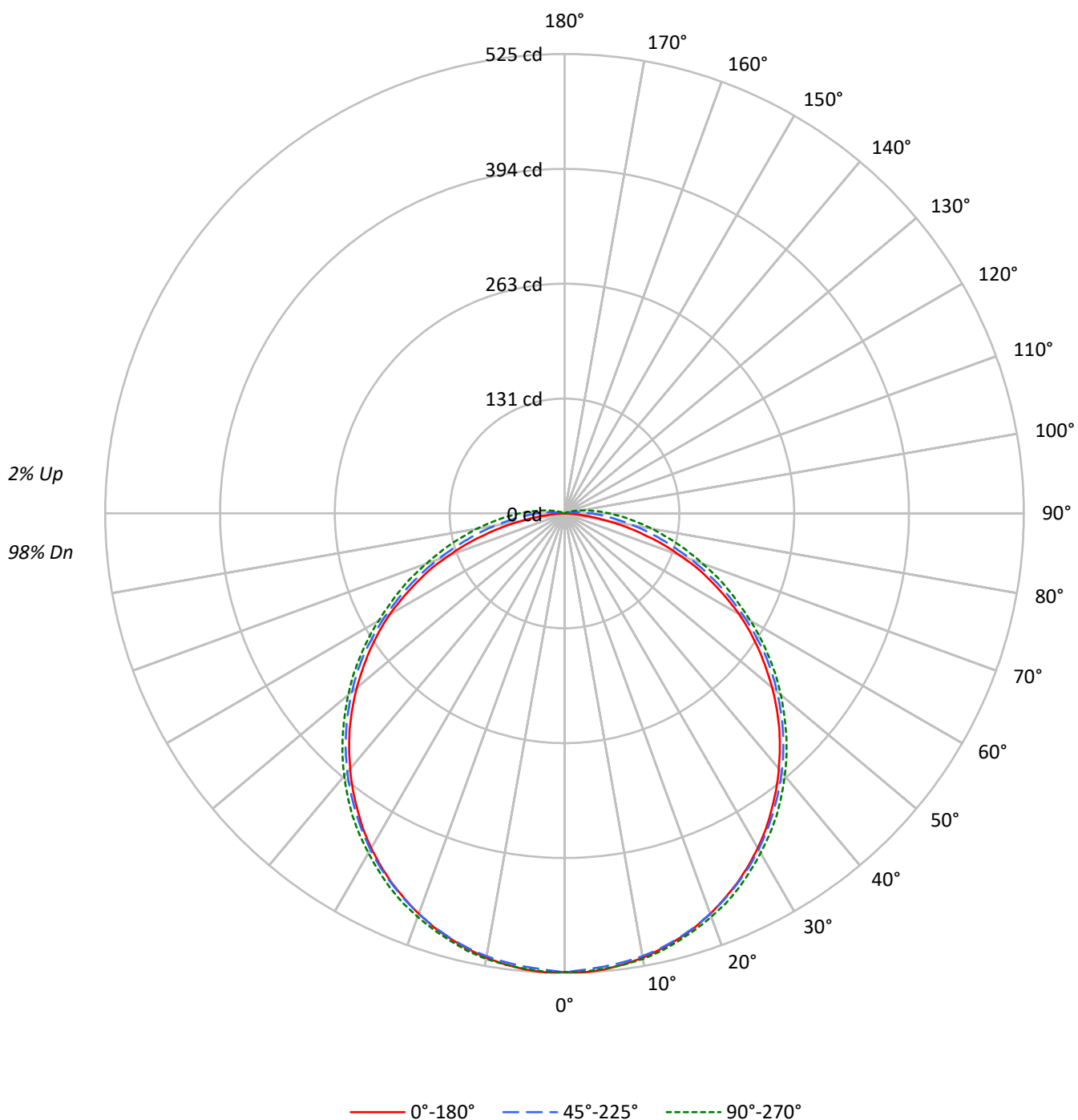
Input Watts (W): 16.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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	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°	4232	4232	4232
5°	4208	4127	4141
10°	4165	4043	4058
15°	4114	3952	3959
20°	4060	3852	3862
25°	3998	3749	3764
30°	3928	3640	3652
35°	3844	3521	3542
40°	3755	3398	3412
45°	3660	3263	3273
50°	3539	3109	3123
55°	3409	2941	2958
60°	3254	2726	2765
65°	3017	2487	2574
70°	2691	2207	2352
75°	2243	1903	2149
80°	1607	1603	1965
85°	773	1299	1789

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 3660 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	49.6	3.1
10°-20°	142.3	9.0
20°-30°	215.9	13.6
30°-40°	261.1	16.5
40°-50°	272.4	17.2
50°-60°	249.1	15.7
60°-70°	194.2	12.2
70°-80°	121.4	7.7
80°-90°	55.2	3.5
90°-100°	18.5	1.2
100°-110°	4.6	0.3
110°-120°	0.7	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°	407.8	25.7
0°-40°	668.9	42.2
0°-60°	1190.3	75.1
0°-90°	1561.1	98.5
90°-120°	23.9	1.5
90°-150°	23.9	1.5
90°-180°	24.0	1.5
0°-180°	1585.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	524	524	524	524	524	
5°	523	522	520	522	522	50
15°	503	504	503	506	505	142
25°	466	467	467	471	472	215
35°	413	415	416	420	422	258
45°	347	350	353	357	358	268
55°	271	274	279	283	285	242
65°	186	189	196	204	207	184
75°	94	100	115	128	133	100
85°	16	30	52	68	74	21
90°	0	11	30	46	51	1
95°	0	3	16	29	33	0
105°	0	0	3	8	10	0
115°	0	0	0	1	2	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

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	524.2	524.2	524.2	524.2	524.2
2.5°	524.8	524.1	521.8	524.1	524.0
5°	523.1	522.1	519.8	522.2	522.2
7.5°	519.6	519.3	517.2	520.0	520.0
10°	515.6	515.4	513.7	516.8	516.9
12.5°	509.9	510.4	508.8	511.7	512.1
15°	503.2	504.1	502.7	505.6	505.4
17.5°	495.9	496.4	495.4	498.6	498.5
20°	486.9	487.5	486.8	490.1	490.5
22.5°	476.9	477.8	477.6	481.1	482.1
25°	466.3	466.6	467.1	471.1	471.8
27.5°	454.5	455.1	456.0	459.6	460.3
30°	441.7	442.7	443.6	447.4	448.3
32.5°	428.1	429.1	430.3	435.1	435.6
35°	412.8	414.6	416.3	420.5	422.3
37.5°	397.4	399.8	401.4	405.8	407.2
40°	381.2	383.6	386.2	390.9	391.7
42.5°	364.3	367.0	370.1	374.3	375.8
45°	347.3	350.3	353.2	356.6	358.4
47.5°	328.8	331.9	335.4	339.3	340.5
50°	309.8	313.4	317.1	320.8	322.8
52.5°	290.3	294.6	298.8	302.8	304.6
55°	271.0	274.2	279.3	283.4	285.2
57.5°	251.0	253.7	258.3	265.0	265.9
60°	230.6	233.1	237.8	243.2	245.4
62.5°	208.1	211.4	216.4	223.3	225.3
65°	186.2	189.4	196.0	203.8	207.0
67.5°	165.1	166.2	174.6	182.8	188.0
70°	140.1	144.3	154.1	164.1	168.1
72.5°	118.6	122.8	133.6	145.3	150.3
75°	94.3	100.1	114.7	128.4	133.2
77.5°	72.9	79.3	97.4	111.2	116.8
80°	50.9	60.9	80.6	96.1	102.2
82.5°	32.0	44.4	65.4	81.7	87.0
85°	16.3	30.2	51.8	68.5	74.5
87.5°	4.3	19.5	40.3	56.2	62.4
90°	0.1	11.2	30.5	45.8	51.4
92.5°	0.1	6.3	22.7	36.5	42.1
95°	0.1	3.0	15.8	28.7	33.1
97.5°	0.1	1.2	10.9	21.6	26.1
100°	0.1	0.6	6.9	15.7	19.5
102.5°	0.2	0.4	4.3	11.2	14.3
105°	0.2	0.4	2.6	7.7	10.3
107.5°	0.2	0.4	1.5	5.2	7.0
110°	0.4	0.4	0.9	3.2	4.7

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.4	0.4	0.5	2.1	3.1
115°	0.4	0.4	0.5	1.4	2.0
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)