

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: P517907

Luminaire Tested: HVL8-2-LD4-1STD-40-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: P517907
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-2-LD4-1STD-40-UNV-C-EDD-90
Description: 2 FOOT, 8 INCH WIDE, HVL LED LUMINAIRE, WITH 4000K, 90 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1560.0 lumens
Efficiency: N/A
Efficacy: 95.7 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

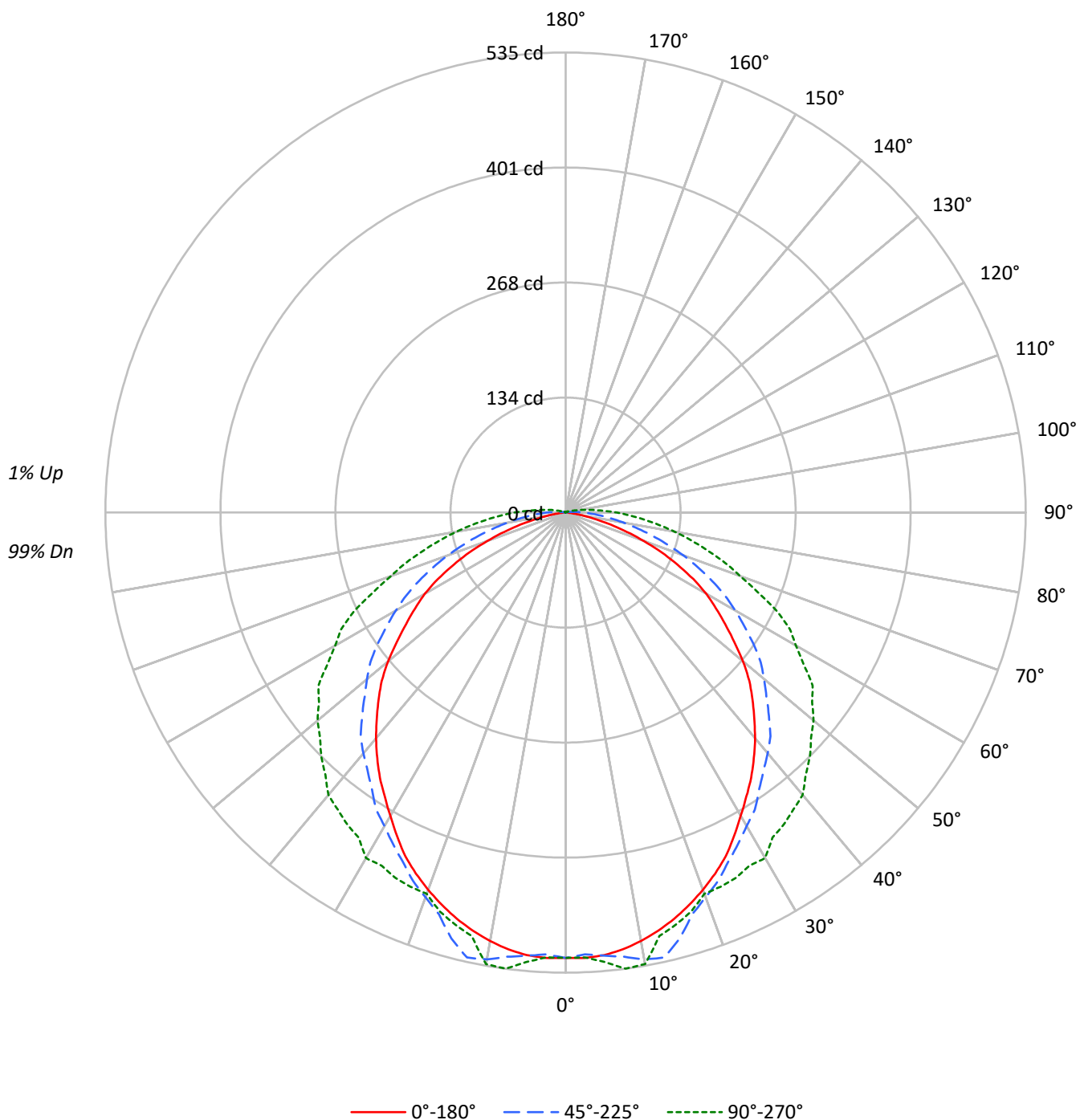
Input Watts (W): 16.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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°	4180	4180	4180
5°	4156	4107	4160
10°	4086	4152	4186
15°	3997	4030	3885
20°	3892	3766	3715
25°	3781	3594	3739
30°	3622	3453	3780
35°	3504	3320	3713
40°	3376	3217	3736
45°	3241	3089	3669
50°	3078	2953	3641
55°	2849	2808	3638
60°	2664	2614	3484
65°	2324	2384	3372
70°	1859	2090	3024
75°	1289	1737	2761
80°	688	1385	2478
85°	232	1023	2182

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 45°

Luminance: 3669 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	49.8	3.2
10°-20°	141.7	9.1
20°-30°	210.9	13.5
30°-40°	253.5	16.2
40°-50°	266.8	17.1
50°-60°	247.6	15.9
60°-70°	195.8	12.5
70°-80°	119.6	7.7
80°-90°	52.1	3.3
90°-100°	16.2	1.0
100°-110°	3.6	0.2
110°-120°	1.5	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°	402.4	25.8
0°-40°	655.9	42.0
0°-60°	1170.2	75.0
0°-90°	1537.6	98.6
90°-120°	21.3	1.4
90°-150°	22.3	1.4
90°-180°	22.0	1.4
0°-180°	1560.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	518	518	518	518	518	
5°	517	516	517	523	525	49
15°	489	508	513	496	496	138
25°	441	469	448	461	469	202
35°	376	387	392	428	443	235
45°	308	309	334	387	402	237
55°	226	230	267	325	351	204
65°	143	148	188	249	271	142
75°	54	72	105	161	171	59
85°	5	17	41	79	91	8
90°	0	5	21	50	59	0
95°	0	1	9	28	34	0
105°	0	1	2	5	8	0
115°	0	0	2	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°	517.8	517.8	517.8	517.8	517.8
2.5°	518.5	517.1	514.2	517.0	517.7
5°	516.6	515.5	517.3	523.1	524.6
7.5°	512.2	516.3	521.0	531.5	534.9
10°	505.8	513.4	527.6	536.6	533.1
12.5°	498.0	510.9	530.0	512.5	504.3
15°	488.9	507.7	512.7	495.7	496.0
17.5°	478.3	505.1	489.8	489.4	486.3
20°	466.8	496.2	476.0	475.1	471.8
22.5°	454.4	484.5	463.7	462.0	470.9
25°	441.0	469.2	447.8	461.2	468.7
27.5°	424.3	449.2	434.5	453.5	462.9
30°	407.3	428.5	420.9	447.4	464.0
32.5°	391.4	406.9	409.7	445.0	447.8
35°	376.3	386.7	392.5	428.2	442.7
37.5°	359.7	362.6	378.0	421.1	435.1
40°	342.8	341.0	365.7	409.5	428.9
42.5°	324.7	324.1	352.7	403.7	413.4
45°	307.5	308.9	334.3	387.2	401.7
47.5°	289.9	291.7	316.8	369.2	387.1
50°	269.4	271.7	301.2	353.2	376.3
52.5°	247.3	251.7	286.0	338.0	361.3
55°	226.5	230.2	266.7	325.0	350.8
57.5°	207.5	209.7	246.7	308.7	328.2
60°	188.8	189.3	228.0	290.5	309.2
62.5°	167.4	168.4	208.7	269.1	294.1
65°	143.4	147.9	187.9	248.6	271.2
67.5°	120.9	128.8	166.7	229.9	241.7
70°	96.8	110.2	145.9	207.8	216.1
72.5°	74.8	90.5	124.6	183.1	194.8
75°	54.2	71.8	104.7	161.0	171.1
77.5°	36.5	54.4	86.2	136.5	149.9
80°	21.8	39.8	69.6	113.8	128.9
82.5°	11.2	26.7	54.0	95.5	109.0
85°	4.9	16.9	40.8	79.2	90.9
87.5°	1.4	9.6	30.1	64.0	73.9
90°	0.1	5.1	21.4	50.2	59.2
92.5°	0.1	2.4	15.1	38.0	44.8
95°	0.1	1.3	9.4	27.5	33.7
97.5°	0.1	0.7	5.7	19.5	24.7
100°	0.1	0.6	3.4	13.0	17.6
102.5°	0.1	0.7	2.3	8.2	11.5
105°	0.1	0.7	1.9	5.4	7.6
107.5°	0.2	0.7	1.7	4.0	5.3
110°	0.1	0.6	1.8	3.1	4.1

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.2	0.5	1.7	2.5	3.1
115°	0.1	0.4	1.5	2.4	2.5
117.5°	0.2	0.3	1.2	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	1.6	2.2
127.5°	0.2	0.2	0.5	1.3	1.7
130°	0.2	0.2	0.4	0.9	1.3
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)