

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: P517756

Luminaire Tested: HVL8-1-LD4-1STD-30-UNV-C-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: P517756
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-1-LD4-1STD-30-UNV-C-EDD
Description: 1 FOOT, 8 INCH WIDE, HVL LED LUMINAIRE, WITH 3000K, 80 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 875.0 lumens
Efficiency: N/A
Efficacy: 106.7 lumens/watt
Spacing Criteria (0/90/45): 1.18 / 1.32 / 1.36
Luminous Opening: Rectangular w/ Sides (W: 0.67' x L: 1' x H: 0.17')
CIE Type: Direct

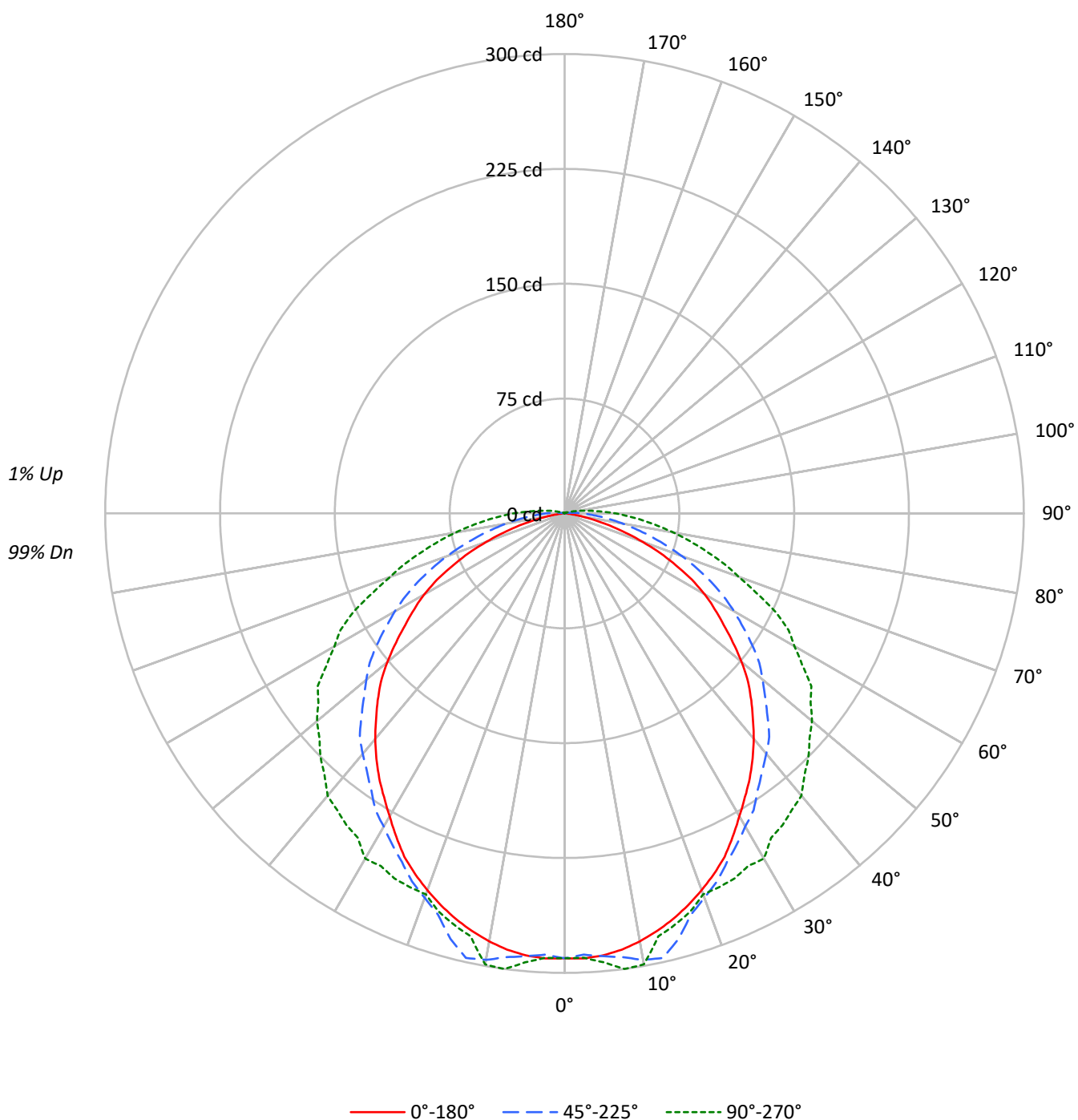
Input Watts (W): 8.2
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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°	4690	4690	4690
5°	4628	4585	4666
10°	4518	4613	4695
15°	4387	4456	4358
20°	4241	4143	4169
25°	4090	3934	4194
30°	3884	3762	4241
35°	3724	3598	4165
40°	3556	3466	4192
45°	3376	3307	4115
50°	3166	3140	4083
55°	2888	2964	4082
60°	2654	2734	3907
65°	2263	2467	3783
70°	1758	2134	3392
75°	1169	1747	3098
80°	583	1361	2780
85°	172	971	2449

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 45°

Luminance: 4115 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	27.9	3.2
10°-20°	79.5	9.1
20°-30°	118.3	13.5
30°-40°	142.2	16.2
40°-50°	149.6	17.1
50°-60°	138.9	15.9
60°-70°	109.8	12.5
70°-80°	67.1	7.7
80°-90°	29.2	3.3
90°-100°	9.1	1.0
100°-110°	2.0	0.2
110°-120°	0.8	0.1
120°-130°	0.5	0.1
130°-140°	0.1	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°	225.7	25.8
0°-40°	367.9	42.0
0°-60°	656.4	75.0
0°-90°	862.5	98.6
90°-120°	12.0	1.4
90°-150°	12.5	1.4
90°-180°	13.0	1.5
0°-180°	875.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	290	290	290	290	290	
5°	290	289	290	293	294	27
15°	274	285	288	278	278	77
25°	247	263	251	259	263	114
35°	211	217	220	240	248	132
45°	172	173	188	217	225	133
55°	127	129	150	182	197	114
65°	80	83	105	140	152	80
75°	30	40	59	90	96	33
85°	3	10	23	44	51	4
90°	0	3	12	28	33	0
95°	0	1	5	15	19	0
105°	0	0	1	3	4	0
115°	0	0	1	1	1	0
125°	0	0	0	1	1	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°	290.5	290.5	290.5	290.5	290.5
2.5°	290.8	290.0	288.4	290.0	290.4
5°	289.7	289.2	290.2	293.4	294.2
7.5°	287.3	289.6	292.2	298.1	300.0
10°	283.7	288.0	296.0	301.0	299.0
12.5°	279.3	286.5	297.3	287.4	282.9
15°	274.2	284.8	287.6	278.0	278.2
17.5°	268.3	283.3	274.7	274.5	272.8
20°	261.8	278.3	267.0	266.5	264.7
22.5°	254.9	271.8	260.1	259.2	264.1
25°	247.4	263.2	251.2	258.7	262.9
27.5°	238.0	251.9	243.7	254.4	259.6
30°	228.4	240.3	236.1	250.9	260.3
32.5°	219.5	228.2	229.8	249.6	251.2
35°	211.0	216.9	220.2	240.2	248.3
37.5°	201.8	203.4	212.0	236.2	244.1
40°	192.3	191.3	205.1	229.7	240.6
42.5°	182.1	181.8	197.9	226.4	231.9
45°	172.5	173.2	187.5	217.2	225.3
47.5°	162.6	163.6	177.7	207.1	217.1
50°	151.1	152.4	168.9	198.1	211.0
52.5°	138.7	141.2	160.4	189.6	202.6
55°	127.0	129.1	149.6	182.3	196.8
57.5°	116.4	117.6	138.4	173.1	184.1
60°	105.9	106.2	127.9	162.9	173.4
62.5°	93.9	94.4	117.0	150.9	165.0
65°	80.4	83.0	105.4	139.5	152.1
67.5°	67.8	72.2	93.5	128.9	135.6
70°	54.3	61.8	81.8	116.6	121.2
72.5°	41.9	50.8	69.9	102.7	109.3
75°	30.4	40.3	58.8	90.3	96.0
77.5°	20.5	30.5	48.3	76.6	84.1
80°	12.2	22.3	39.1	63.8	72.3
82.5°	6.3	15.0	30.3	53.5	61.1
85°	2.7	9.5	22.9	44.4	51.0
87.5°	0.8	5.4	16.9	35.9	41.5
90°	0.1	2.8	12.0	28.2	33.2
92.5°	0.1	1.4	8.5	21.3	25.1
95°	0.1	0.7	5.3	15.4	18.9
97.5°	0.1	0.4	3.2	10.9	13.8
100°	0.1	0.4	1.9	7.3	9.9
102.5°	0.1	0.4	1.3	4.6	6.4
105°	0.1	0.4	1.1	3.0	4.3
107.5°	0.1	0.4	0.9	2.2	3.0
110°	0.1	0.4	1.0	1.7	2.3

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.1	0.3	0.9	1.4	1.7
115°	0.1	0.2	0.8	1.4	1.4
117.5°	0.1	0.2	0.7	1.4	1.4
120°	0.1	0.1	0.5	1.3	1.5
122.5°	0.1	0.1	0.4	1.2	1.4
125°	0.1	0.1	0.4	0.9	1.2
127.5°	0.1	0.1	0.3	0.7	0.9
130°	0.1	0.1	0.2	0.5	0.7
132.5°	0.1	0.1	0.2	0.4	0.5
135°	0.1	0.1	0.1	0.3	0.4
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)