

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: P517793

Luminaire Tested: HVL8-1-LD4-2LO-35-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: P517793
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-1-LD4-2LO-35-UNV-O-EDD-90
Description: 1 FOOT, 8 INCH WIDE, HVL LED LUMINAIRE, WITH 3500K, 90 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1026.0 lumens
Efficiency: N/A
Efficacy: 89.2 lumens/watt
Spacing Criteria (0/90/45): 1.25 / 1.27 / 1.38
Luminous Opening: Rectangular w/ Sides (W: 0.67' x L: 1' x H: 0.17')
CIE Type: Direct

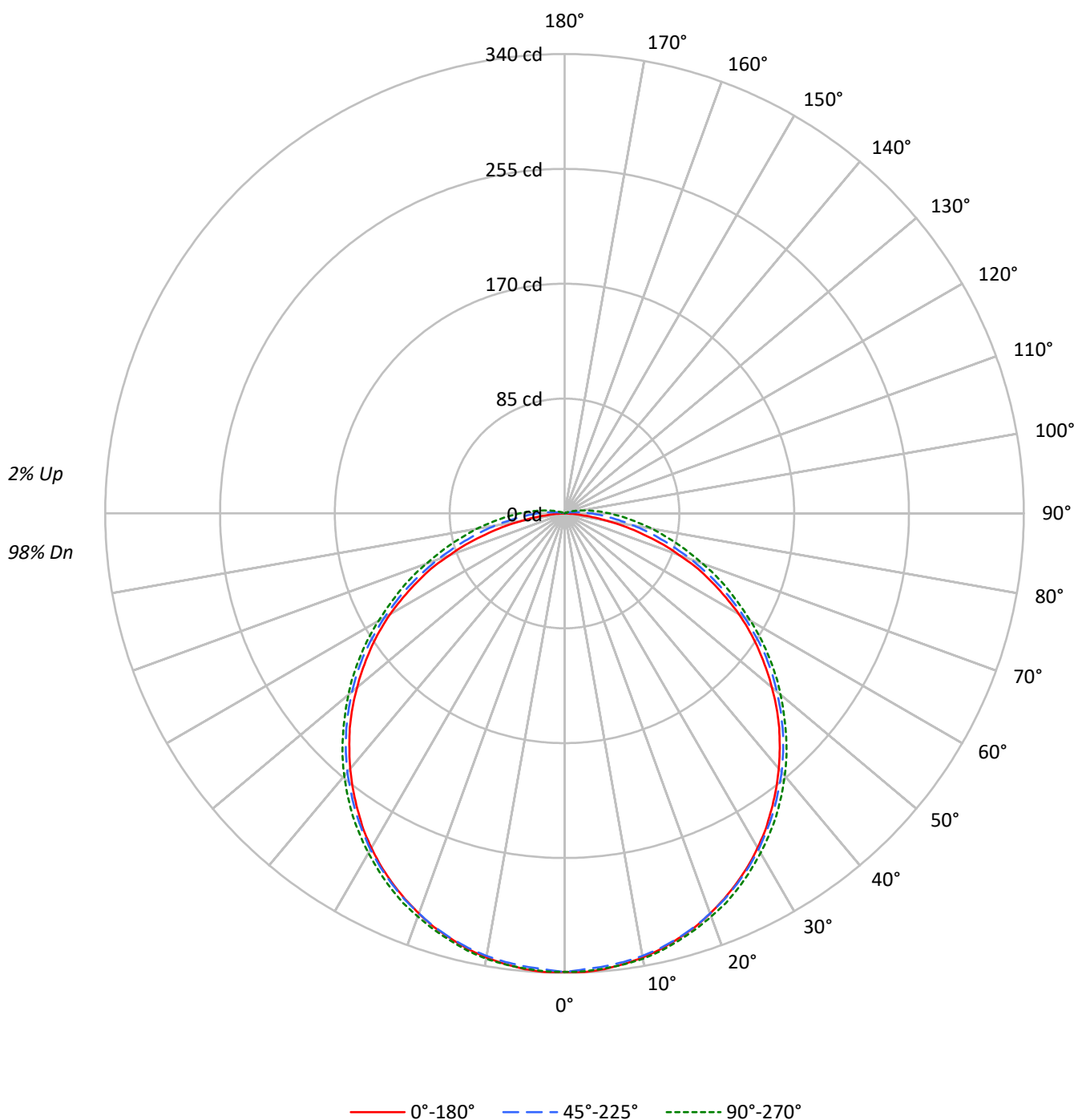
Input Watts (W): 11.5
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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	30	10	50	30	10
RCR																				
0	119	119	119	119	116	116	116	116	110	110	110	105	105	105	101	101	101			98
1	108	102	98	94	105	100	96	92	95	92	89	91	88	86	87	85	83			81
2	98	89	82	76	95	87	80	75	83	77	73	79	75	71	76	72	69			67
3	89	78	69	63	86	76	68	62	73	66	61	70	64	59	67	62	58			56
4	81	69	60	53	79	67	59	52	65	57	52	62	56	51	60	54	50			47
5	75	61	52	45	72	60	52	45	58	50	44	56	49	44	54	48	43			41
6	69	55	46	40	67	54	46	39	52	45	39	50	44	38	49	43	38			36
7	64	50	41	35	62	49	41	35	47	40	34	46	39	34	44	38	34			32
8	59	46	37	31	58	45	37	31	43	36	31	42	35	30	41	35	30			28
9	55	42	34	28	54	41	33	28	40	33	28	39	32	27	38	32	27			25
10	52	39	31	25	51	38	30	25	37	30	25	36	29	25	35	29	25			23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5478	5478	5478
5°	5409	5317	5362
10°	5315	5182	5254
15°	5211	5041	5126
20°	5106	4890	5000
25°	4989	4736	4873
30°	4862	4576	4728
35°	4716	4403	4584
40°	4563	4225	4418
45°	4400	4032	4238
50°	4202	3817	4043
55°	3988	3582	3829
60°	3741	3290	3580
65°	3394	2971	3332
70°	2937	2603	3045
75°	2346	2204	2782
80°	1577	1817	2546
85°	676	1421	2314

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 4400 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	32.1	3.1
10°-20°	92.1	9.0
20°-30°	139.8	13.6
30°-40°	169.0	16.5
40°-50°	176.3	17.2
50°-60°	161.2	15.7
60°-70°	125.7	12.3
70°-80°	78.6	7.7
80°-90°	35.7	3.5
90°-100°	12.0	1.2
100°-110°	3.0	0.3
110°-120°	0.5	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°	264.0	25.7
0°-40°	433.0	42.2
0°-60°	770.5	75.1
0°-90°	1010.6	98.5
90°-120°	15.5	1.5
90°-150°	15.5	1.5
90°-180°	15.0	1.5
0°-180°	1026.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	339	339	339	339	339	
5°	339	338	336	338	338	32
15°	326	326	325	327	327	92
25°	302	302	302	305	305	139
35°	267	268	270	272	273	167
45°	225	227	229	231	232	173
55°	175	178	181	183	185	157
65°	121	123	127	132	134	119
75°	61	65	74	83	86	65
85°	11	20	34	44	48	13
90°	0	7	20	30	33	0
95°	0	2	10	19	21	0
105°	0	0	2	5	7	0
115°	0	0	0	1	1	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°	339.3	339.3	339.3	339.3	339.3
2.5°	339.7	339.3	337.7	339.3	339.2
5°	338.6	338.0	336.5	338.1	338.1
7.5°	336.4	336.1	334.8	336.6	336.6
10°	333.7	333.7	332.5	334.5	334.6
12.5°	330.1	330.4	329.3	331.3	331.5
15°	325.7	326.3	325.4	327.3	327.2
17.5°	321.0	321.3	320.7	322.8	322.7
20°	315.2	315.6	315.1	317.3	317.5
22.5°	308.7	309.3	309.2	311.4	312.1
25°	301.8	302.1	302.4	304.9	305.4
27.5°	294.2	294.6	295.2	297.5	298.0
30°	285.9	286.5	287.2	289.6	290.2
32.5°	277.1	277.7	278.5	281.7	282.0
35°	267.2	268.4	269.5	272.2	273.3
37.5°	257.3	258.8	259.8	262.7	263.6
40°	246.8	248.3	250.0	253.0	253.6
42.5°	235.8	237.6	239.6	242.3	243.3
45°	224.8	226.8	228.6	230.9	232.0
47.5°	212.9	214.9	217.1	219.7	220.4
50°	200.5	202.9	205.3	207.7	208.9
52.5°	187.9	190.7	193.4	196.0	197.2
55°	175.4	177.5	180.8	183.4	184.6
57.5°	162.5	164.2	167.2	171.5	172.1
60°	149.3	150.9	153.9	157.4	158.9
62.5°	134.7	136.9	140.1	144.6	145.8
65°	120.6	122.6	126.9	131.9	134.0
67.5°	106.9	107.6	113.0	118.3	121.7
70°	90.7	93.4	99.8	106.2	108.8
72.5°	76.8	79.5	86.5	94.1	97.3
75°	61.0	64.8	74.2	83.1	86.2
77.5°	47.2	51.4	63.0	72.0	75.6
80°	33.0	39.4	52.2	62.2	66.2
82.5°	20.7	28.7	42.3	52.9	56.3
85°	10.6	19.5	33.5	44.3	48.2
87.5°	2.8	12.6	26.1	36.4	40.4
90°	0.1	7.3	19.8	29.7	33.3
92.5°	0.1	4.1	14.7	23.6	27.3
95°	0.1	1.9	10.2	18.6	21.4
97.5°	0.1	0.8	7.0	14.0	16.9
100°	0.1	0.4	4.5	10.2	12.6
102.5°	0.2	0.2	2.8	7.3	9.3
105°	0.2	0.2	1.7	5.0	6.6
107.5°	0.2	0.2	1.0	3.4	4.6
110°	0.2	0.2	0.6	2.1	3.0

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.2	0.2	0.3	1.4	2.0
115°	0.2	0.2	0.3	0.9	1.3
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)