

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: P517790

Luminaire Tested: HVL8-1-LD4-2LO-30-UNV-O-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: P517790
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-1-LD4-2LO-30-UNV-O-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: 1169.0 lumens
Efficiency: N/A
Efficacy: 101.7 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

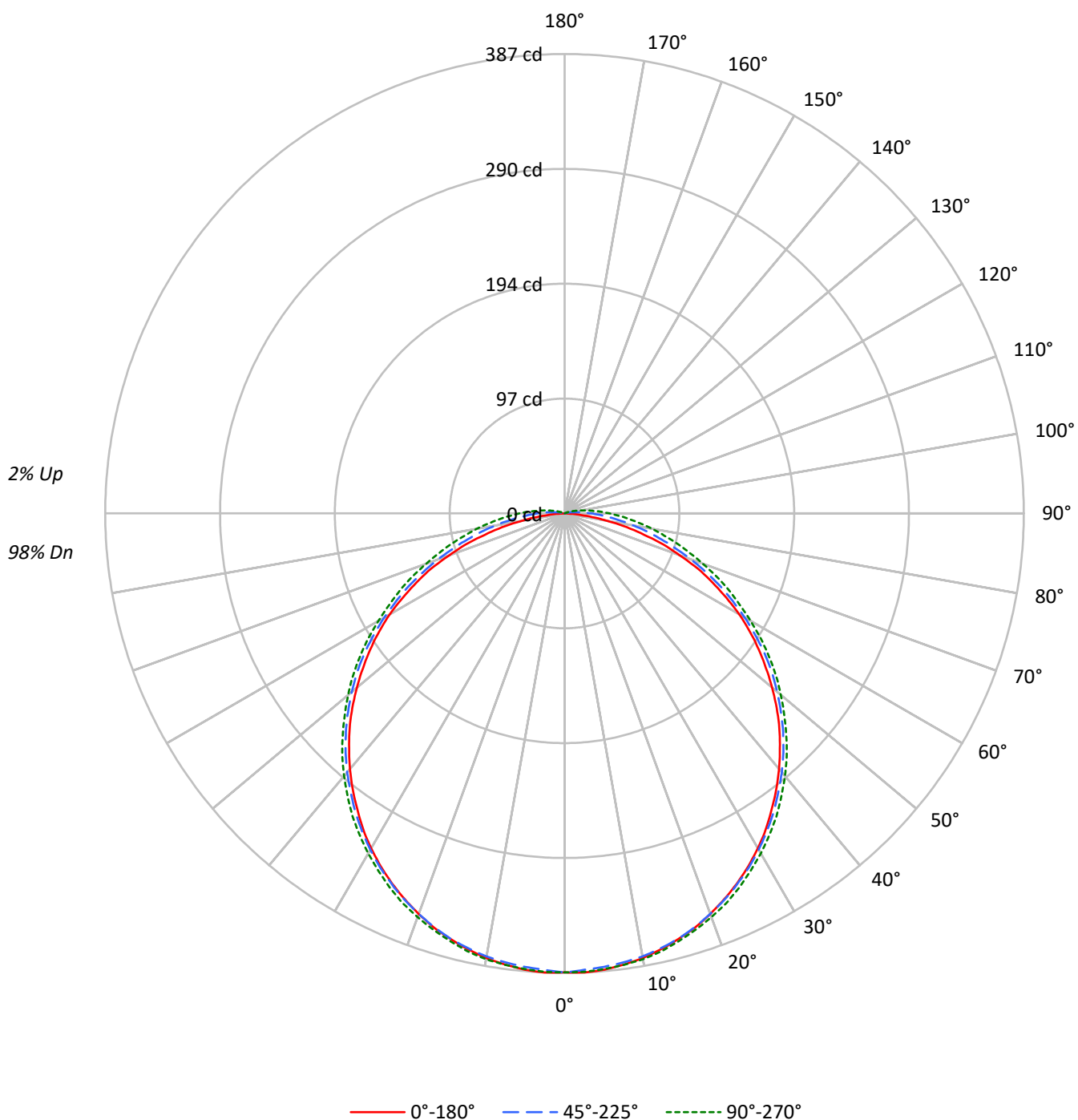
Input Watts (W): 11.5
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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°	6242	6242	6242
5°	6163	6058	6109
10°	6057	5905	5987
15°	5938	5744	5840
20°	5817	5571	5698
25°	5685	5396	5552
30°	5541	5213	5388
35°	5373	5018	5223
40°	5200	4813	5033
45°	5012	4594	4828
50°	4788	4348	4608
55°	4545	4081	4364
60°	4262	3750	4078
65°	3867	3385	3797
70°	3348	2966	3470
75°	2673	2513	3172
80°	1797	2068	2899
85°	765	1620	2641

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 5012 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	36.6	3.1
10°-20°	105.0	9.0
20°-30°	159.2	13.6
30°-40°	192.6	16.5
40°-50°	200.9	17.2
50°-60°	183.7	15.7
60°-70°	143.2	12.3
70°-80°	89.6	7.7
80°-90°	40.7	3.5
90°-100°	13.6	1.2
100°-110°	3.4	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°	300.8	25.7
0°-40°	493.3	42.2
0°-60°	877.9	75.1
0°-90°	1151.4	98.5
90°-120°	17.6	1.5
90°-150°	17.6	1.5
90°-180°	18.0	1.5
0°-180°	1169.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	387	387	387	387	387	
5°	386	385	383	385	385	37
15°	371	372	371	373	373	105
25°	344	344	344	347	348	158
35°	304	306	307	310	311	191
45°	256	258	260	263	264	197
55°	200	202	206	209	210	179
65°	137	140	145	150	153	136
75°	70	74	85	95	98	74
85°	12	22	38	50	55	15
90°	0	8	22	34	38	0
95°	0	2	12	21	24	0
105°	0	0	2	6	8	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°	386.6	386.6	386.6	386.6	386.6
2.5°	387.1	386.5	384.8	386.5	386.5
5°	385.8	385.1	383.4	385.2	385.2
7.5°	383.3	383.0	381.4	383.5	383.5
10°	380.3	380.2	378.9	381.2	381.3
12.5°	376.1	376.4	375.2	377.4	377.7
15°	371.1	371.8	370.8	372.9	372.8
17.5°	365.8	366.1	365.4	367.8	367.7
20°	359.1	359.6	359.0	361.5	361.8
22.5°	351.7	352.4	352.3	354.8	355.6
25°	343.9	344.2	344.5	347.4	348.0
27.5°	335.2	335.7	336.3	339.0	339.5
30°	325.8	326.5	327.2	329.9	330.7
32.5°	315.7	316.5	317.4	320.9	321.3
35°	304.4	305.8	307.1	310.2	311.4
37.5°	293.1	294.9	296.0	299.3	300.3
40°	281.2	282.9	284.8	288.3	288.9
42.5°	268.7	270.7	273.0	276.1	277.2
45°	256.1	258.4	260.5	263.0	264.3
47.5°	242.5	244.8	247.4	250.3	251.1
50°	228.5	231.1	233.9	236.6	238.1
52.5°	214.1	217.3	220.4	223.3	224.7
55°	199.9	202.2	206.0	209.0	210.4
57.5°	185.1	187.1	190.5	195.4	196.1
60°	170.1	171.9	175.4	179.4	181.0
62.5°	153.5	155.9	159.6	164.7	166.2
65°	137.4	139.7	144.6	150.3	152.7
67.5°	121.8	122.6	128.8	134.8	138.6
70°	103.4	106.5	113.7	121.0	124.0
72.5°	87.5	90.6	98.5	107.2	110.8
75°	69.5	73.8	84.6	94.7	98.3
77.5°	53.8	58.5	71.8	82.0	86.1
80°	37.6	44.9	59.4	70.9	75.4
82.5°	23.6	32.7	48.2	60.2	64.2
85°	12.0	22.2	38.2	50.5	55.0
87.5°	3.2	14.4	29.7	41.5	46.0
90°	0.1	8.3	22.5	33.8	37.9
92.5°	0.1	4.6	16.8	26.9	31.1
95°	0.1	2.2	11.7	21.1	24.4
97.5°	0.1	0.9	8.0	16.0	19.2
100°	0.1	0.5	5.1	11.6	14.4
102.5°	0.2	0.3	3.2	8.3	10.6
105°	0.2	0.3	1.9	5.7	7.6
107.5°	0.2	0.3	1.1	3.8	5.2
110°	0.3	0.3	0.6	2.4	3.5

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.3	0.3	0.4	1.5	2.3
115°	0.3	0.3	0.4	1.0	1.5
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)