

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: P517789

Luminaire Tested: HVL8-1-LD4-2LO-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: P517789
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-90
Description: 1 FOOT, 8 INCH WIDE, HVL LED LUMINAIRE, WITH 3000K, 90 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1013.0 lumens
Efficiency: N/A
Efficacy: 88.1 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

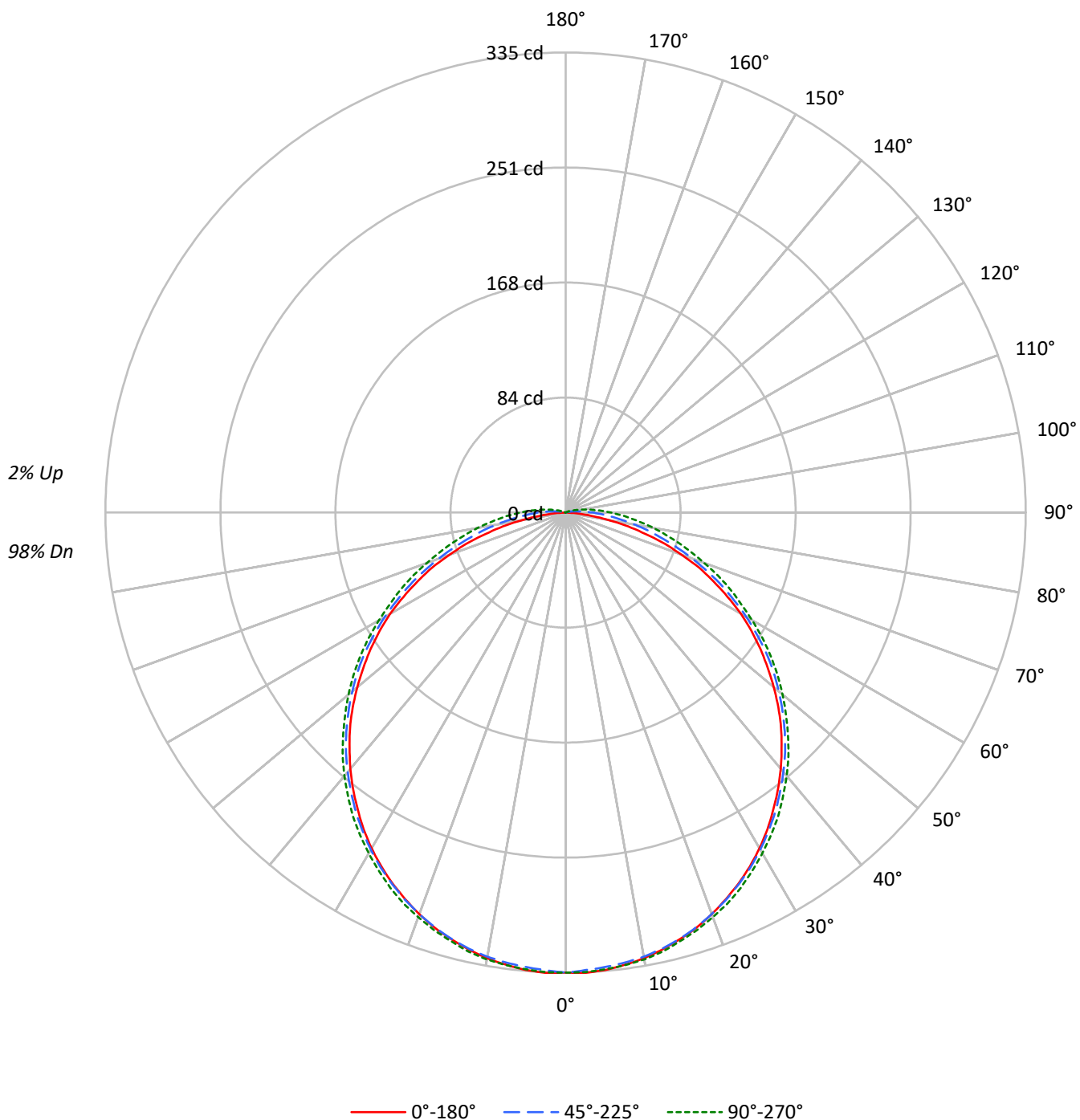
Input Watts (W): 11.5
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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°	5409	5409	5409
5°	5340	5249	5294
10°	5248	5117	5188
15°	5146	4978	5060
20°	5041	4828	4937
25°	4926	4675	4812
30°	4801	4517	4668
35°	4656	4348	4527
40°	4506	4171	4362
45°	4343	3981	4183
50°	4149	3768	3992
55°	3938	3536	3781
60°	3693	3250	3535
65°	3349	2933	3290
70°	2901	2570	3005
75°	2319	2178	2746
80°	1553	1793	2511
85°	663	1404	2286

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 4343 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	31.7	3.1
10°-20°	90.9	9.0
20°-30°	138.0	13.6
30°-40°	166.9	16.5
40°-50°	174.1	17.2
50°-60°	159.2	15.7
60°-70°	124.1	12.2
70°-80°	77.6	7.7
80°-90°	35.3	3.5
90°-100°	11.8	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°	260.6	25.7
0°-40°	427.5	42.2
0°-60°	760.8	75.1
0°-90°	997.7	98.5
90°-120°	15.2	1.5
90°-150°	15.2	1.5
90°-180°	15.0	1.5
0°-180°	1013.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	335	335	335	335	335	
5°	334	334	332	334	334	32
15°	322	322	321	323	323	91
25°	298	298	298	301	302	137
35°	264	265	266	269	270	165
45°	222	224	226	228	229	171
55°	173	175	178	181	182	155
65°	119	121	125	130	132	118
75°	60	64	73	82	85	64
85°	10	19	33	44	48	13
90°	0	7	20	29	33	0
95°	0	2	10	18	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°	335.0	335.0	335.0	335.0	335.0
2.5°	335.4	335.0	333.5	335.0	334.9
5°	334.3	333.7	332.2	333.8	333.8
7.5°	332.1	331.9	330.5	332.4	332.4
10°	329.5	329.4	328.3	330.3	330.4
12.5°	325.9	326.2	325.2	327.1	327.3
15°	321.6	322.2	321.3	323.1	323.0
17.5°	317.0	317.3	316.6	318.7	318.6
20°	311.2	311.6	311.1	313.2	313.5
22.5°	304.8	305.3	305.3	307.5	308.1
25°	298.0	298.2	298.5	301.1	301.6
27.5°	290.5	290.9	291.4	293.7	294.2
30°	282.3	282.9	283.5	285.9	286.5
32.5°	273.6	274.2	275.0	278.1	278.4
35°	263.8	265.0	266.1	268.8	269.9
37.5°	254.0	255.5	256.5	259.4	260.2
40°	243.7	245.2	246.8	249.8	250.4
42.5°	232.8	234.6	236.5	239.2	240.2
45°	221.9	223.9	225.7	227.9	229.0
47.5°	210.2	212.1	214.4	216.9	217.6
50°	198.0	200.3	202.7	205.0	206.3
52.5°	185.5	188.3	191.0	193.5	194.7
55°	173.2	175.3	178.5	181.1	182.3
57.5°	160.4	162.1	165.1	169.3	170.0
60°	147.4	149.0	152.0	155.4	156.9
62.5°	133.0	135.1	138.3	142.7	144.0
65°	119.0	121.1	125.3	130.2	132.3
67.5°	105.5	106.2	111.6	116.8	120.1
70°	89.6	92.3	98.5	104.9	107.4
72.5°	75.8	78.5	85.4	92.9	96.0
75°	60.3	64.0	73.3	82.1	85.1
77.5°	46.6	50.7	62.2	71.1	74.6
80°	32.5	38.9	51.5	61.4	65.3
82.5°	20.5	28.4	41.8	52.2	55.6
85°	10.4	19.3	33.1	43.8	47.6
87.5°	2.8	12.5	25.7	35.9	39.9
90°	0.1	7.2	19.5	29.3	32.9
92.5°	0.1	4.0	14.5	23.3	26.9
95°	0.1	1.9	10.1	18.3	21.2
97.5°	0.1	0.8	7.0	13.8	16.7
100°	0.1	0.4	4.4	10.0	12.5
102.5°	0.2	0.2	2.8	7.2	9.2
105°	0.2	0.2	1.7	4.9	6.6
107.5°	0.2	0.2	0.9	3.3	4.5
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	1.3	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)