

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: P517725

Luminaire Tested: HVL8-1-LD4-1HI-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: P517725
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-1-LD4-1HI-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: 1020.0 lumens
Efficiency: N/A
Efficacy: 95.3 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

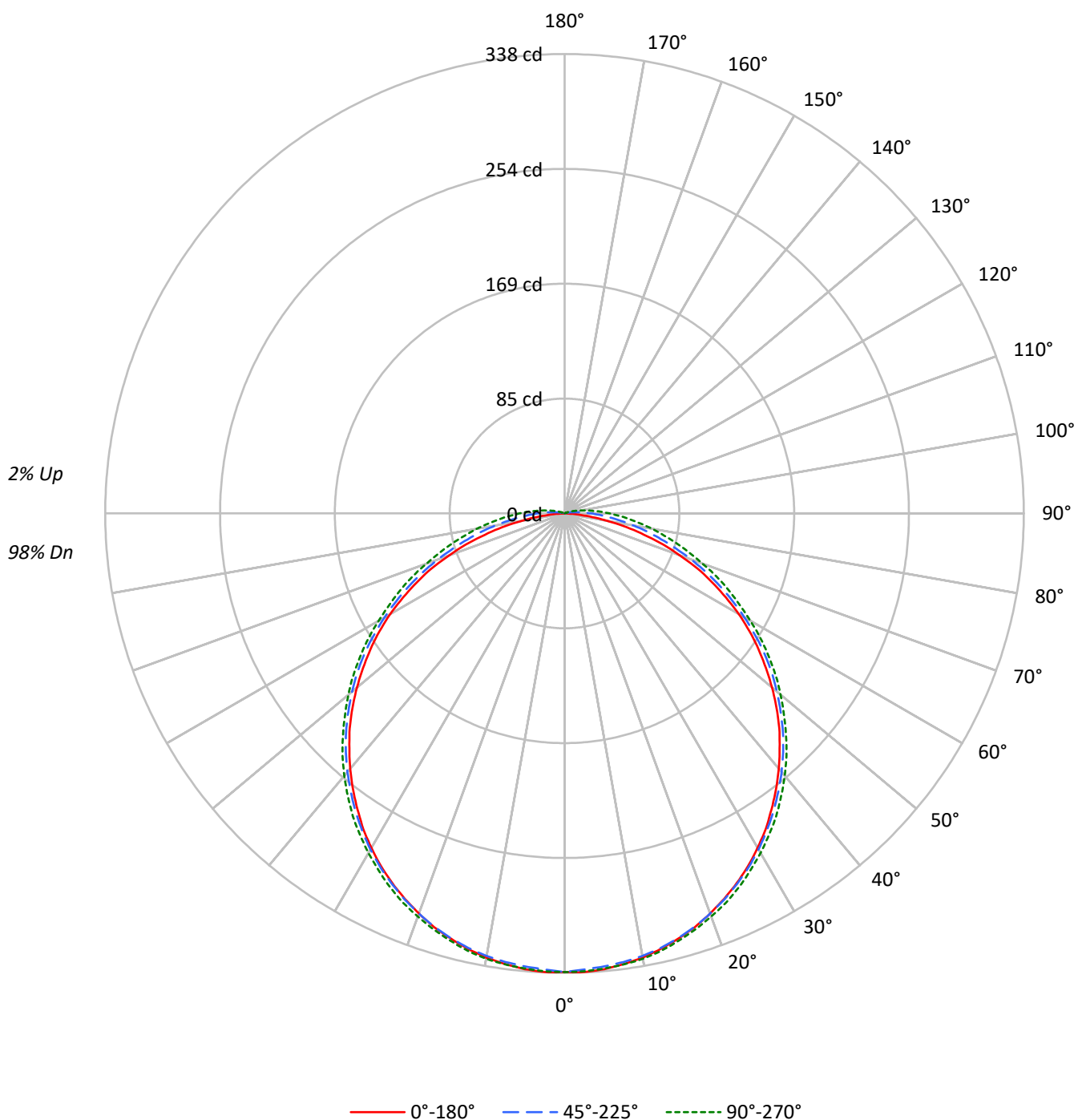
Input Watts (W): 10.7
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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°	5448	5448	5448
5°	5377	5285	5331
10°	5285	5152	5224
15°	5181	5012	5096
20°	5075	4862	4970
25°	4961	4708	4844
30°	4833	4549	4700
35°	4688	4377	4557
40°	4536	4199	4392
45°	4374	4009	4212
50°	4179	3794	4019
55°	3965	3560	3806
60°	3718	3271	3558
65°	3372	2952	3313
70°	2921	2588	3028
75°	2334	2193	2765
80°	1568	1807	2530
85°	669	1412	2305

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 4374 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	31.9	3.1
10°-20°	91.6	9.0
20°-30°	139.0	13.6
30°-40°	168.0	16.5
40°-50°	175.3	17.2
50°-60°	160.3	15.7
60°-70°	124.9	12.2
70°-80°	78.2	7.7
80°-90°	35.5	3.5
90°-100°	11.9	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°	262.4	25.7
0°-40°	430.5	42.2
0°-60°	766.0	75.1
0°-90°	1004.7	98.5
90°-120°	15.4	1.5
90°-150°	15.4	1.5
90°-180°	15.0	1.5
0°-180°	1020.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	337	337	337	337	337	
5°	337	336	334	336	336	32
15°	324	324	324	325	325	91
25°	300	300	301	303	304	138
35°	266	267	268	271	272	166
45°	224	226	227	230	231	172
55°	174	176	180	182	184	156
65°	120	122	126	131	133	119
75°	61	64	74	83	86	65
85°	10	19	33	44	48	13
90°	0	7	20	30	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°	337.4	337.4	337.4	337.4	337.4
2.5°	337.8	337.3	335.8	337.3	337.2
5°	336.6	336.0	334.5	336.1	336.1
7.5°	334.4	334.2	332.8	334.7	334.7
10°	331.8	331.7	330.6	332.6	332.7
12.5°	328.1	328.4	327.4	329.3	329.6
15°	323.8	324.4	323.5	325.3	325.3
17.5°	319.1	319.5	318.8	320.9	320.8
20°	313.3	313.7	313.3	315.4	315.6
22.5°	306.9	307.5	307.4	309.6	310.2
25°	300.1	300.3	300.6	303.2	303.6
27.5°	292.5	292.9	293.5	295.8	296.2
30°	284.2	284.9	285.5	287.9	288.5
32.5°	275.5	276.1	276.9	280.0	280.3
35°	265.6	266.8	267.9	270.6	271.7
37.5°	255.8	257.3	258.3	261.2	262.0
40°	245.3	246.9	248.5	251.5	252.1
42.5°	234.4	236.2	238.2	240.9	241.8
45°	223.5	225.5	227.3	229.5	230.6
47.5°	211.6	213.6	215.8	218.4	219.1
50°	199.4	201.7	204.1	206.5	207.7
52.5°	186.8	189.6	192.3	194.8	196.0
55°	174.4	176.5	179.7	182.4	183.5
57.5°	161.5	163.3	166.2	170.5	171.1
60°	148.4	150.0	153.0	156.5	157.9
62.5°	133.9	136.1	139.3	143.7	145.0
65°	119.8	121.9	126.1	131.1	133.2
67.5°	106.2	107.0	112.4	117.6	121.0
70°	90.2	92.9	99.2	105.6	108.2
72.5°	76.3	79.1	86.0	93.5	96.7
75°	60.7	64.4	73.8	82.6	85.7
77.5°	46.9	51.1	62.7	71.6	75.2
80°	32.8	39.2	51.9	61.9	65.8
82.5°	20.6	28.6	42.1	52.6	56.0
85°	10.5	19.4	33.3	44.1	48.0
87.5°	2.8	12.6	25.9	36.2	40.2
90°	0.1	7.2	19.6	29.5	33.1
92.5°	0.1	4.1	14.6	23.5	27.1
95°	0.1	1.9	10.2	18.5	21.3
97.5°	0.1	0.8	7.0	13.9	16.8
100°	0.1	0.4	4.5	10.1	12.6
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	1.0	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	1.4	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)