

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: P517752

Luminaire Tested: HVL8-1-LD4-1LO-50-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: P517752
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-1-LD4-1LO-50-UNV-C-EDD
Description: 1 FOOT, 8 INCH WIDE, HVL LED LUMINAIRE, WITH 5000K, 80 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 732.9 lumens
Efficiency: N/A
Efficacy: 126.4 lumens/watt
Spacing Criteria (0/90/45): 1.18 / 1.32 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.67' x L: 1' x H: 0.17')
CIE Type: Direct

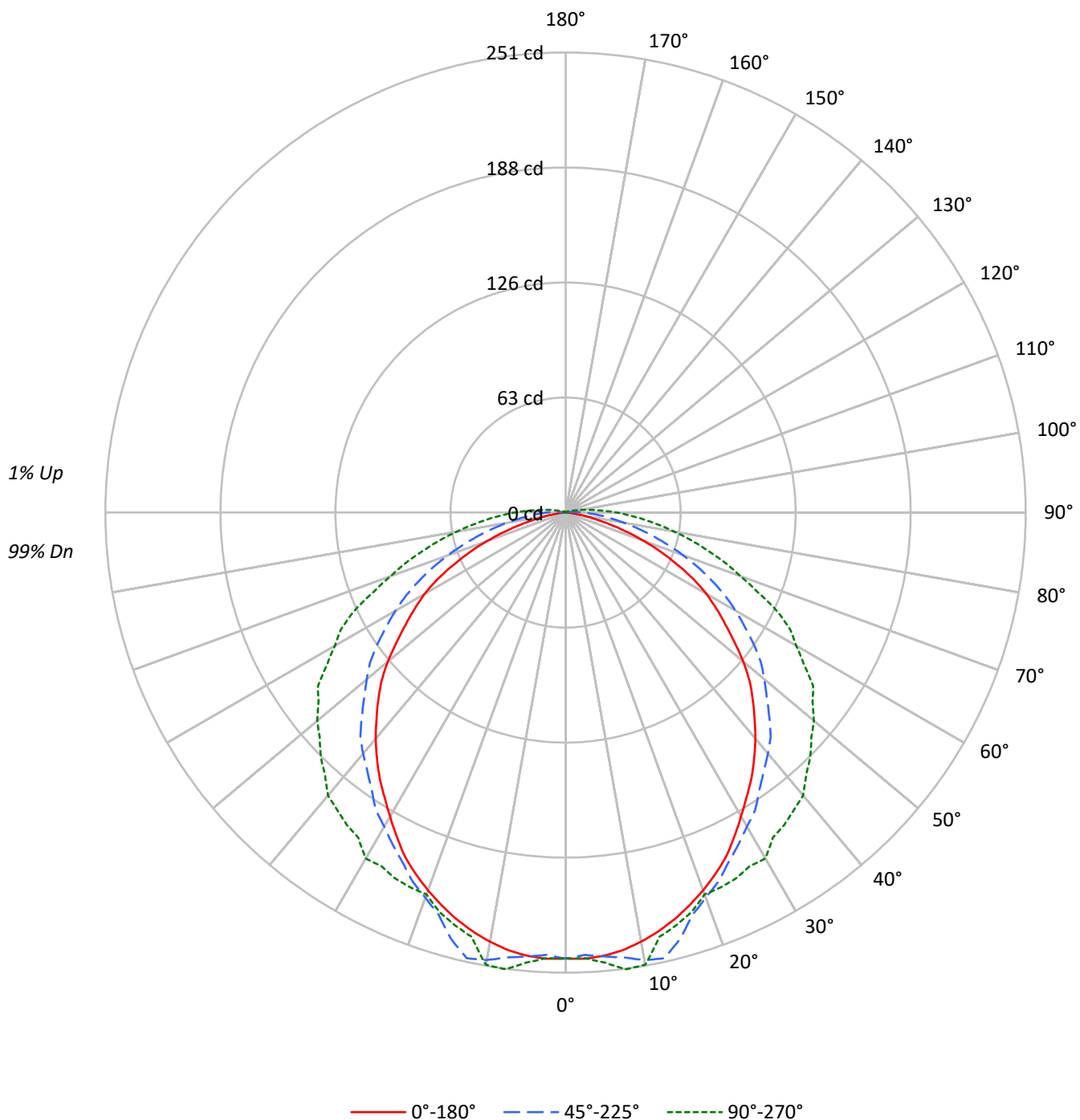
Input Watts (W): 5.8
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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			99
1	108	103	98	94	105	100	96	92	96	92	89	91	89	86	87	85	83			81
2	98	89	82	76	95	87	80	75	83	78	73	80	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	51	62	56	51	60	54	50			47
5	75	61	52	45	72	60	51	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°	3928	3928	3928
5°	3877	3841	3910
10°	3786	3864	3934
15°	3675	3732	3652
20°	3552	3470	3492
25°	3425	3295	3513
30°	3255	3152	3552
35°	3121	3013	3489
40°	2979	2903	3510
45°	2828	2771	3447
50°	2653	2630	3421
55°	2419	2482	3420
60°	2223	2290	3274
65°	1897	2067	3168
70°	1473	1787	2843
75°	981	1462	2594
80°	492	1138	2330
85°	147	814	2050

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 45°

Luminance: 3447 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	23.4	3.2
10°-20°	66.6	9.1
20°-30°	99.1	13.5
30°-40°	119.1	16.3
40°-50°	125.4	17.1
50°-60°	116.3	15.9
60°-70°	92.0	12.5
70°-80°	56.2	7.7
80°-90°	24.5	3.3
90°-100°	7.6	1.0
100°-110°	1.7	0.2
110°-120°	0.7	0.1
120°-130°	0.4	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°	189.1	25.8
0°-40°	308.2	42.0
0°-60°	549.9	75.0
0°-90°	722.5	98.6
90°-120°	10.0	1.4
90°-150°	10.4	1.4
90°-180°	10.0	1.4
0°-180°	732.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	243	243	243	243	243	
5°	243	242	243	246	246	23
15°	230	239	241	233	233	65
25°	207	220	210	217	220	95
35°	177	182	184	201	208	111
45°	144	145	157	182	189	111
55°	106	108	125	153	165	96
65°	67	70	88	117	127	67
75°	26	34	49	76	80	28
85°	2	8	19	37	43	4
90°	0	2	10	24	28	0
95°	0	1	4	13	16	0
105°	0	0	1	2	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°	243.3	243.3	243.3	243.3	243.3
2.5°	243.6	243.0	241.6	242.9	243.3
5°	242.7	242.2	243.1	245.8	246.5
7.5°	240.7	242.6	244.8	249.8	251.3
10°	237.7	241.2	247.9	252.1	250.5
12.5°	234.0	240.0	249.0	240.8	237.0
15°	229.7	238.6	240.9	232.9	233.1
17.5°	224.7	237.3	230.1	229.9	228.5
20°	219.3	233.2	223.6	223.2	221.7
22.5°	213.5	227.7	217.9	217.1	221.3
25°	207.2	220.5	210.4	216.7	220.2
27.5°	199.4	211.0	204.2	213.1	217.5
30°	191.4	201.3	197.8	210.2	218.0
32.5°	183.9	191.2	192.5	209.1	210.4
35°	176.8	181.7	184.4	201.2	208.0
37.5°	169.0	170.4	177.6	197.9	204.5
40°	161.1	160.2	171.8	192.4	201.5
42.5°	152.6	152.3	165.7	189.7	194.2
45°	144.5	145.1	157.1	182.0	188.7
47.5°	136.2	137.0	148.8	173.5	181.9
50°	126.6	127.7	141.5	165.9	176.8
52.5°	116.2	118.3	134.4	158.8	169.8
55°	106.4	108.2	125.3	152.7	164.9
57.5°	97.5	98.5	115.9	145.0	154.2
60°	88.7	89.0	107.1	136.5	145.3
62.5°	78.7	79.1	98.0	126.4	138.2
65°	67.4	69.5	88.3	116.8	127.4
67.5°	56.8	60.5	78.3	108.0	113.6
70°	45.5	51.8	68.5	97.6	101.6
72.5°	35.1	42.5	58.5	86.0	91.5
75°	25.5	33.8	49.2	75.6	80.4
77.5°	17.1	25.6	40.5	64.1	70.4
80°	10.3	18.7	32.7	53.5	60.6
82.5°	5.3	12.5	25.4	44.9	51.2
85°	2.3	7.9	19.2	37.2	42.7
87.5°	0.6	4.5	14.1	30.1	34.7
90°	0.0	2.4	10.1	23.6	27.8
92.5°	0.0	1.1	7.1	17.8	21.1
95°	0.0	0.6	4.4	12.9	15.8
97.5°	0.0	0.3	2.7	9.2	11.6
100°	0.0	0.3	1.6	6.1	8.3
102.5°	0.0	0.3	1.1	3.9	5.4
105°	0.0	0.3	0.9	2.5	3.6
107.5°	0.1	0.3	0.8	1.9	2.5
110°	0.0	0.3	0.8	1.4	1.9

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.1	0.2	0.8	1.2	1.4
115°	0.0	0.2	0.7	1.1	1.2
117.5°	0.1	0.1	0.5	1.1	1.2
120°	0.1	0.1	0.4	1.1	1.2
122.5°	0.1	0.1	0.3	1.0	1.2
125°	0.0	0.1	0.3	0.7	1.0
127.5°	0.1	0.1	0.2	0.6	0.8
130°	0.1	0.1	0.2	0.4	0.6
132.5°	0.1	0.1	0.1	0.3	0.4
135°	0.1	0.1	0.1	0.2	0.3
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)