

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: P517754

Luminaire Tested: HVL8-1-LD4-1LO-50-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: P517754
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-O-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: 663.0 lumens
Efficiency: N/A
Efficacy: 114.3 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

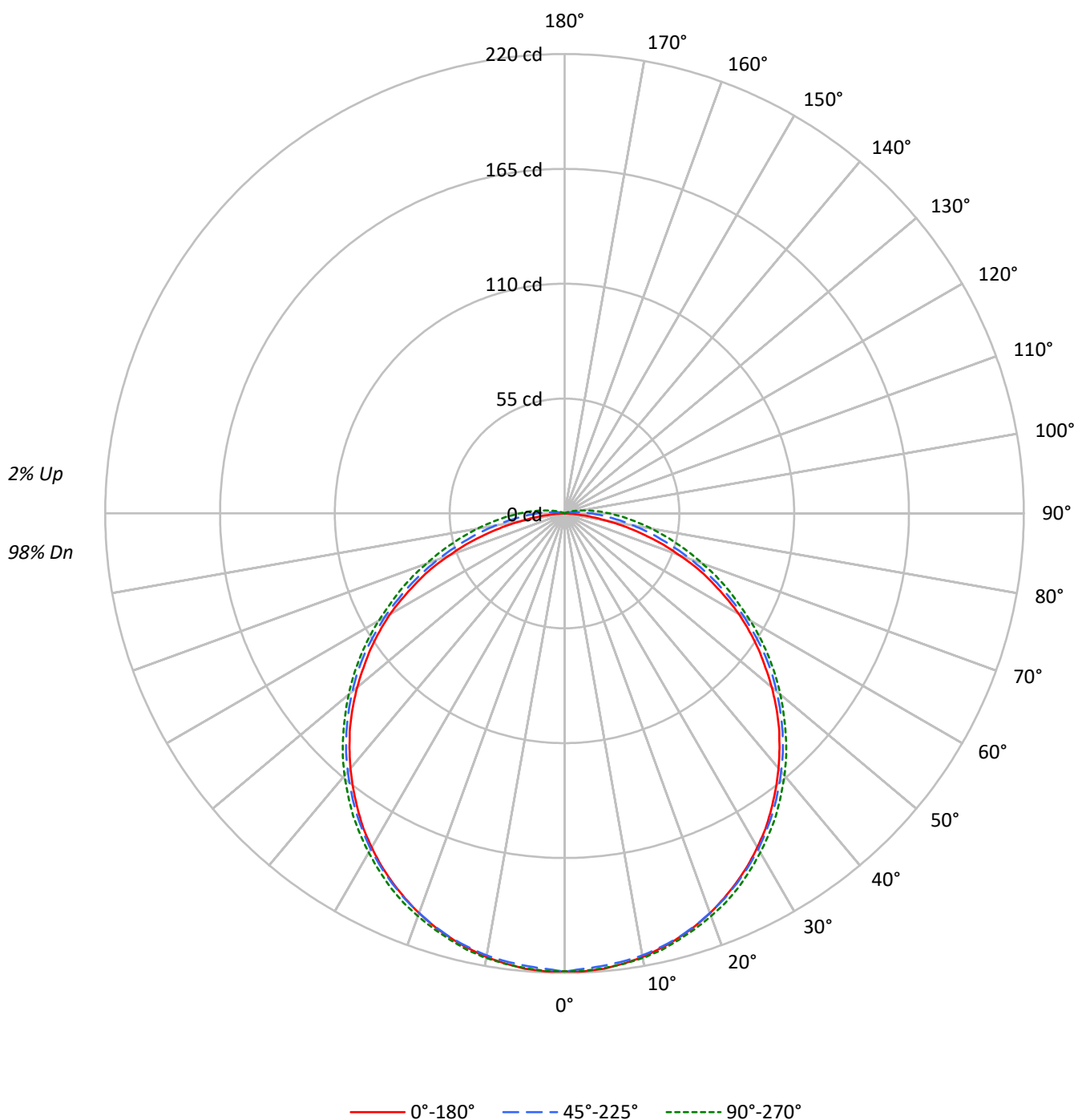
Input Watts (W): 5.8
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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			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°	3541	3541	3541
5°	3495	3435	3466
10°	3435	3349	3395
15°	3368	3258	3312
20°	3300	3159	3232
25°	3223	3060	3149
30°	3141	2957	3055
35°	3048	2846	2962
40°	2949	2729	2855
45°	2844	2605	2738
50°	2716	2465	2612
55°	2578	2314	2475
60°	2418	2127	2314
65°	2192	1920	2154
70°	1897	1683	1967
75°	1515	1426	1797
80°	1018	1173	1642
85°	434	920	1498

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2844 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	20.8	3.1
10°-20°	59.5	9.0
20°-30°	90.3	13.6
30°-40°	109.2	16.5
40°-50°	113.9	17.2
50°-60°	104.2	15.7
60°-70°	81.2	12.2
70°-80°	50.8	7.7
80°-90°	23.1	3.5
90°-100°	7.7	1.2
100°-110°	2.0	0.3
110°-120°	0.3	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°	170.6	25.7
0°-40°	279.8	42.2
0°-60°	497.9	75.1
0°-90°	653.0	98.5
90°-120°	10.0	1.5
90°-150°	10.0	1.5
90°-180°	10.0	1.5
0°-180°	663.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	219	219	219	219	219	
5°	219	218	217	218	218	21
15°	210	211	210	212	211	59
25°	195	195	195	197	197	90
35°	173	173	174	176	177	108
45°	145	146	148	149	150	112
55°	113	115	117	118	119	101
65°	78	79	82	85	87	77
75°	39	42	48	54	56	42
85°	7	13	22	29	31	9
90°	0	5	13	19	22	0
95°	0	1	7	12	14	0
105°	0	0	1	3	4	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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CATALOG NUMBER: HVL8-1-LD4-1LO-50-UNV-O-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	219.3	219.3	219.3	219.3	219.3
2.5°	219.5	219.2	218.2	219.2	219.2
5°	218.8	218.4	217.4	218.5	218.5
7.5°	217.4	217.2	216.3	217.5	217.5
10°	215.7	215.6	214.9	216.2	216.2
12.5°	213.3	213.5	212.8	214.1	214.2
15°	210.5	210.9	210.3	211.5	211.4
17.5°	207.4	207.6	207.2	208.6	208.5
20°	203.7	203.9	203.6	205.0	205.2
22.5°	199.5	199.8	199.8	201.2	201.7
25°	195.0	195.2	195.4	197.1	197.4
27.5°	190.1	190.4	190.7	192.2	192.6
30°	184.7	185.2	185.6	187.1	187.5
32.5°	179.1	179.5	180.0	182.0	182.2
35°	172.7	173.4	174.2	175.9	176.6
37.5°	166.2	167.2	167.9	169.8	170.3
40°	159.5	160.5	161.5	163.5	163.9
42.5°	152.4	153.5	154.8	156.6	157.2
45°	145.3	146.5	147.7	149.2	149.9
47.5°	137.6	138.8	140.3	141.9	142.4
50°	129.6	131.1	132.6	134.2	135.0
52.5°	121.4	123.2	125.0	126.6	127.4
55°	113.4	114.7	116.8	118.5	119.3
57.5°	105.0	106.1	108.0	110.8	111.2
60°	96.5	97.5	99.5	101.7	102.7
62.5°	87.1	88.4	90.5	93.4	94.2
65°	77.9	79.2	82.0	85.2	86.6
67.5°	69.1	69.5	73.0	76.5	78.6
70°	58.6	60.4	64.5	68.6	70.3
72.5°	49.6	51.4	55.9	60.8	62.9
75°	39.4	41.9	48.0	53.7	55.7
77.5°	30.5	33.2	40.7	46.5	48.8
80°	21.3	25.5	33.7	40.2	42.7
82.5°	13.4	18.6	27.3	34.2	36.4
85°	6.8	12.6	21.7	28.6	31.2
87.5°	1.8	8.2	16.9	23.5	26.1
90°	0.1	4.7	12.8	19.2	21.5
92.5°	0.1	2.6	9.5	15.2	17.6
95°	0.1	1.2	6.6	12.0	13.9
97.5°	0.1	0.5	4.5	9.0	10.9
100°	0.1	0.3	2.9	6.6	8.2
102.5°	0.1	0.2	1.8	4.7	6.0
105°	0.1	0.2	1.1	3.2	4.3
107.5°	0.1	0.2	0.6	2.2	2.9
110°	0.2	0.2	0.4	1.3	2.0

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.2	0.2	0.2	0.9	1.3
115°	0.2	0.2	0.2	0.6	0.8
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)