

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: P517896

Luminaire Tested: HVL8-2-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: P517896
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-2-LD4-1LO-50-UNV-C-EDD
Description: 2 FOOT, 8 INCH WIDE, HVL LED LUMINAIRE, WITH 5000K, 80 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

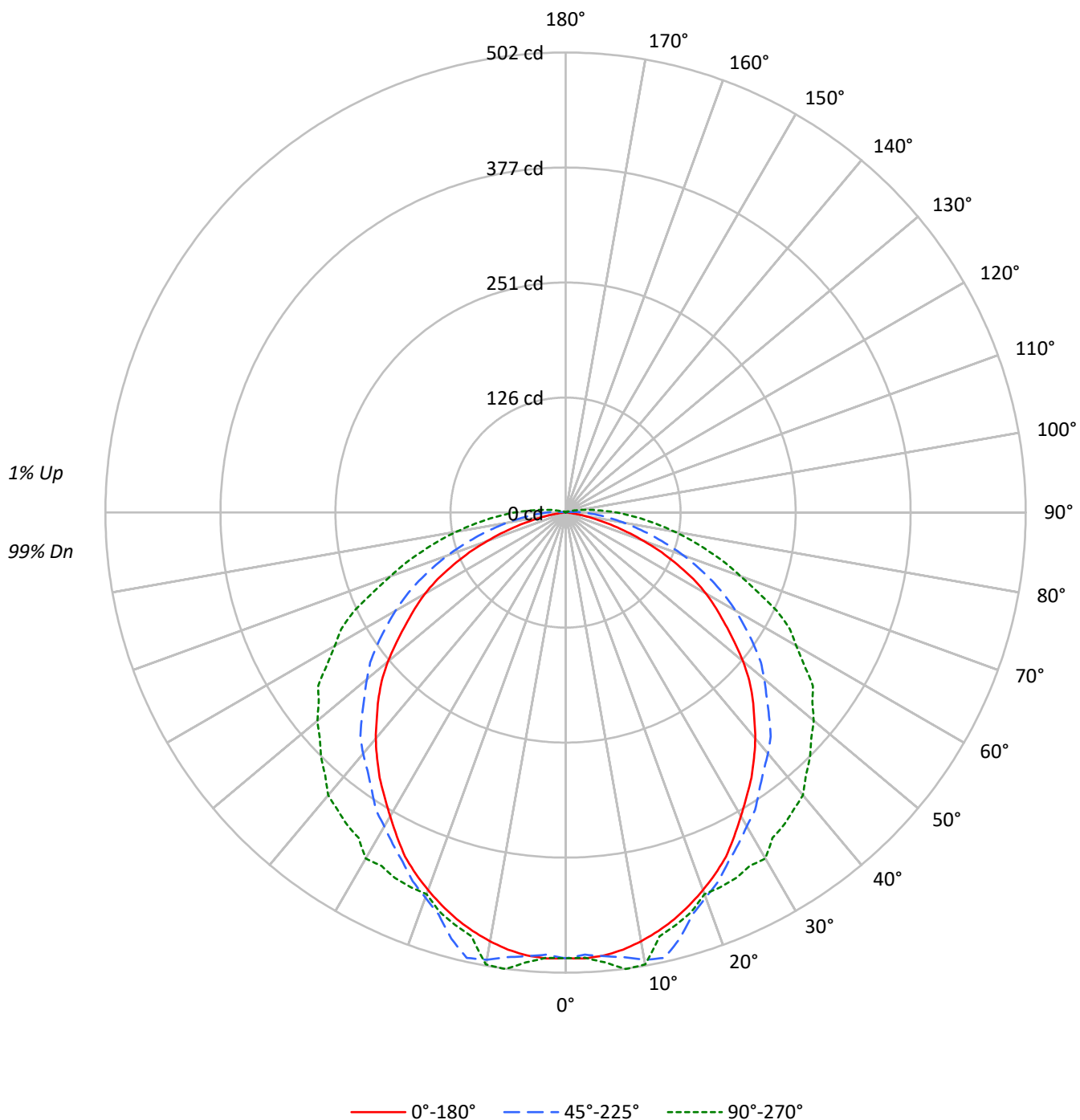
Lumens per Lamp: N/A
Luminaire Lumens: 1465.1 lumens
Efficiency: N/A
Efficacy: 127.4 lumens/watt
Spacing Criteria (0/90/45): 1.18 / 1.32 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.67' x L: 2' x H: 0.17')
CIE Type: Direct

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			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	39	67	54	46	39	52	44	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°	3926	3926	3926
5°	3903	3857	3906
10°	3837	3900	3931
15°	3754	3784	3649
20°	3655	3537	3489
25°	3551	3375	3511
30°	3402	3243	3550
35°	3291	3118	3487
40°	3172	3022	3509
45°	3044	2900	3445
50°	2890	2773	3419
55°	2675	2637	3417
60°	2502	2455	3272
65°	2181	2238	3167
70°	1746	1963	2840
75°	1211	1633	2593
80°	647	1301	2328
85°	218	960	2050

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 45°

Luminance: 3445 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	46.7	3.2
10°-20°	133.1	9.1
20°-30°	198.0	13.5
30°-40°	238.0	16.2
40°-50°	250.6	17.1
50°-60°	232.5	15.9
60°-70°	183.8	12.5
70°-80°	112.3	7.7
80°-90°	48.9	3.3
90°-100°	15.2	1.0
100°-110°	3.4	0.2
110°-120°	1.4	0.1
120°-130°	0.8	0.1
130°-140°	0.2	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°	377.9	25.8
0°-40°	615.9	42.0
0°-60°	1099.0	75.0
0°-90°	1444.0	98.6
90°-120°	20.1	1.4
90°-150°	21.1	1.4
90°-180°	21.0	1.4
0°-180°	1465.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	486	486	486	486	486	
5°	485	484	486	491	493	46
15°	459	477	481	466	466	129
25°	414	441	420	433	440	190
35°	353	363	369	402	416	221
45°	289	290	314	364	377	223
55°	213	216	250	305	330	191
65°	135	139	176	234	255	133
75°	51	68	98	151	161	56
85°	5	16	38	74	85	7
90°	0	5	20	47	56	0
95°	0	1	9	26	32	0
105°	0	1	2	5	7	0
115°	0	0	1	2	2	0
125°	0	0	1	2	2	0
135°	0	0	0	0	1	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°	486.3	486.3	486.3	486.3	486.3
2.5°	486.9	485.6	482.9	485.5	486.2
5°	485.1	484.1	485.8	491.3	492.6
7.5°	481.0	484.8	489.3	499.2	502.3
10°	475.0	482.1	495.5	503.9	500.7
12.5°	467.7	479.8	497.7	481.2	473.6
15°	459.2	476.8	481.4	465.5	465.8
17.5°	449.2	474.3	459.9	459.6	456.7
20°	438.4	466.0	447.0	446.2	443.1
22.5°	426.8	455.0	435.5	433.9	442.2
25°	414.2	440.6	420.5	433.1	440.1
27.5°	398.4	421.8	408.0	425.9	434.7
30°	382.5	402.4	395.3	420.1	435.8
32.5°	367.5	382.1	384.8	417.9	420.5
35°	353.4	363.2	368.6	402.1	415.8
37.5°	337.8	340.5	354.9	395.5	408.6
40°	322.0	320.3	343.5	384.6	402.8
42.5°	304.9	304.3	331.3	379.1	388.2
45°	288.8	290.1	313.9	363.7	377.2
47.5°	272.2	273.9	297.5	346.7	363.6
50°	253.0	255.2	282.8	331.7	353.4
52.5°	232.2	236.4	268.6	317.4	339.3
55°	212.7	216.2	250.4	305.2	329.5
57.5°	194.9	196.9	231.7	289.9	308.2
60°	177.3	177.8	214.1	272.8	290.4
62.5°	157.2	158.1	195.9	252.7	276.2
65°	134.6	138.9	176.4	233.5	254.7
67.5°	113.5	121.0	156.5	215.9	227.0
70°	90.9	103.5	137.0	195.2	203.0
72.5°	70.2	85.0	117.0	172.0	183.0
75°	50.9	67.5	98.4	151.2	160.7
77.5°	34.3	51.1	80.9	128.2	140.8
80°	20.5	37.3	65.4	106.9	121.1
82.5°	10.5	25.1	50.7	89.7	102.3
85°	4.6	15.9	38.3	74.4	85.4
87.5°	1.3	9.0	28.2	60.1	69.4
90°	0.1	4.8	20.1	47.2	55.6
92.5°	0.1	2.3	14.2	35.7	42.1
95°	0.1	1.2	8.8	25.9	31.6
97.5°	0.1	0.7	5.3	18.3	23.2
100°	0.1	0.6	3.2	12.2	16.5
102.5°	0.1	0.7	2.2	7.7	10.8
105°	0.1	0.7	1.8	5.1	7.1
107.5°	0.2	0.7	1.6	3.8	5.0
110°	0.1	0.6	1.7	2.9	3.9

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.2	0.5	1.6	2.4	2.9
115°	0.1	0.4	1.4	2.3	2.4
117.5°	0.2	0.3	1.1	2.3	2.4
120°	0.2	0.2	0.9	2.2	2.5
122.5°	0.2	0.2	0.7	2.0	2.4
125°	0.1	0.2	0.6	1.5	2.1
127.5°	0.2	0.2	0.5	1.2	1.6
130°	0.2	0.2	0.4	0.9	1.2
132.5°	0.2	0.2	0.3	0.7	0.9
135°	0.2	0.2	0.2	0.5	0.7
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)