

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: P517944

Luminaire Tested: HVL8-2-LD4-2LO-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: P517944
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-2-LD4-2LO-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: 2783.0 lumens
Efficiency: N/A
Efficacy: 120.5 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

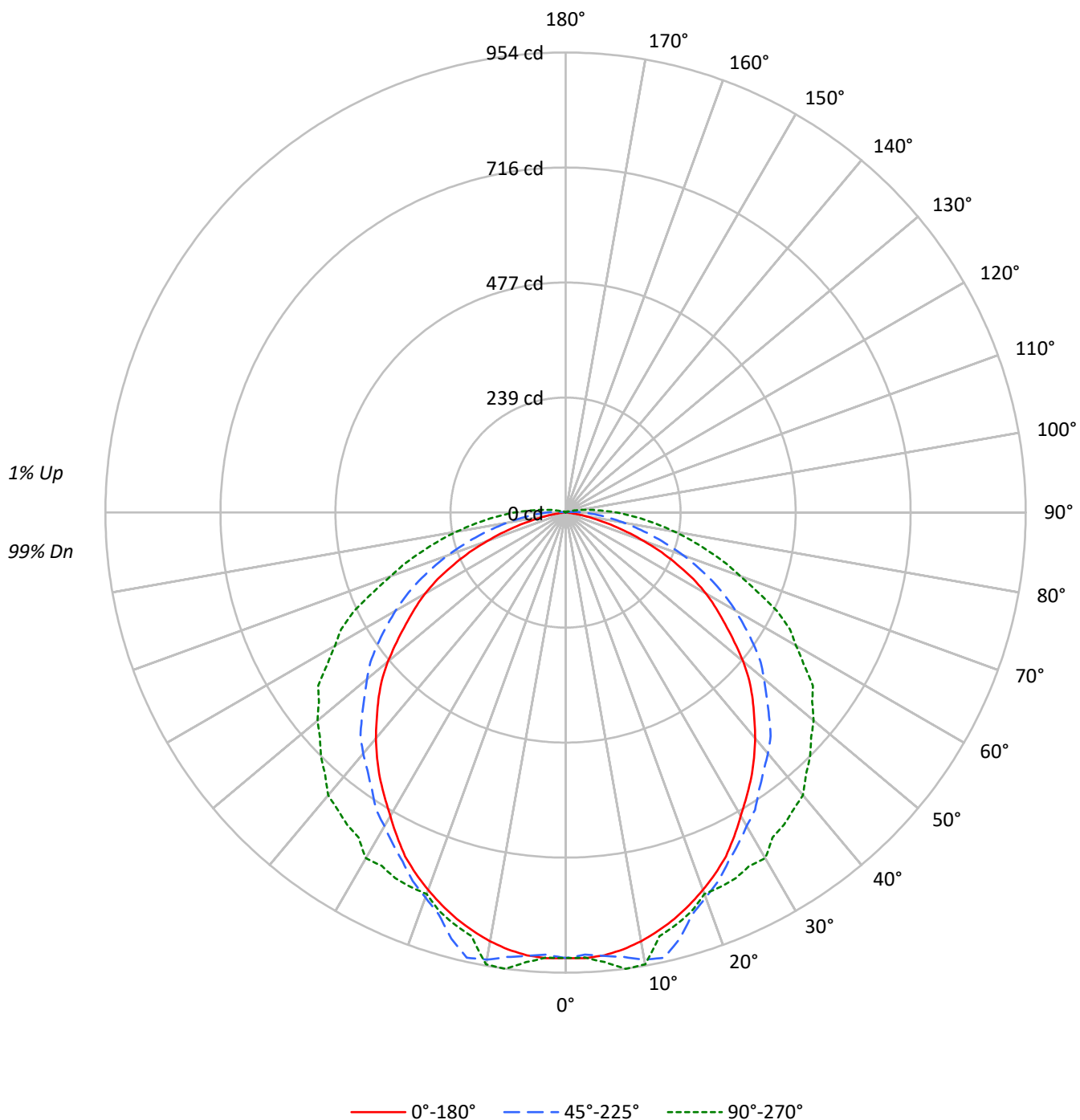
Input Watts (W): 23.1
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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	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°	7458	7458	7458
5°	7414	7328	7421
10°	7290	7408	7467
15°	7130	7190	6931
20°	6943	6718	6629
25°	6746	6411	6670
30°	6462	6161	6743
35°	6251	5923	6624
40°	6024	5740	6666
45°	5781	5510	6545
50°	5491	5268	6495
55°	5081	5009	6491
60°	4753	4663	6215
65°	4144	4253	6016
70°	3319	3729	5395
75°	2301	3101	4924
80°	1231	2471	4422
85°	413	1825	3894

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 45°

Luminance: 6545 cd/sqm

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CATALOG NUMBER: HVL8-2-LD4-2LO-50-UNV-C-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	88.8	3.2
10°-20°	252.8	9.1
20°-30°	376.2	13.5
30°-40°	452.2	16.2
40°-50°	476.0	17.1
50°-60°	441.6	15.9
60°-70°	349.2	12.5
70°-80°	213.3	7.7
80°-90°	92.9	3.3
90°-100°	28.9	1.0
100°-110°	6.5	0.2
110°-120°	2.6	0.1
120°-130°	1.5	0.1
130°-140°	0.4	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°	717.8	25.8
0°-40°	1170.0	42.0
0°-60°	2087.6	75.0
0°-90°	2743.1	98.6
90°-120°	38.0	1.4
90°-150°	39.9	1.4
90°-180°	40.0	1.4
0°-180°	2783.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	924	924	924	924	924	
5°	922	920	923	933	936	87
15°	872	906	915	884	885	246
25°	787	837	799	823	836	361
35°	671	690	700	764	790	420
45°	549	551	596	691	717	423
55°	404	411	476	580	626	363
65°	256	264	335	444	484	253
75°	97	128	187	287	305	106
85°	9	30	73	141	162	13
90°	0	9	38	90	106	0
95°	0	2	17	49	60	0
105°	0	1	3	10	14	0
115°	0	1	3	4	4	0
125°	0	0	1	3	4	0
135°	0	0	0	1	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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CATALOG NUMBER: HVL8-2-LD4-2LO-50-UNV-C-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	923.8	923.8	923.8	923.8	923.8
2.5°	924.9	922.5	917.4	922.3	923.6
5°	921.5	919.7	922.9	933.2	935.8
7.5°	913.8	921.0	929.5	948.3	954.3
10°	902.4	915.9	941.3	957.3	951.1
12.5°	888.4	911.4	945.4	914.2	899.7
15°	872.2	905.7	914.6	884.3	884.9
17.5°	853.2	901.0	873.7	873.0	867.5
20°	832.7	885.2	849.1	847.6	841.8
22.5°	810.7	864.3	827.3	824.3	840.1
25°	786.8	837.1	798.8	822.7	836.1
27.5°	756.9	801.3	775.1	809.0	825.8
30°	726.6	764.4	750.9	798.1	827.8
32.5°	698.2	725.8	730.9	794.0	798.8
35°	671.3	689.9	700.2	763.8	789.8
37.5°	641.7	646.8	674.3	751.2	776.3
40°	611.6	608.4	652.4	730.5	765.2
42.5°	579.2	578.1	629.3	720.2	737.5
45°	548.6	551.0	596.4	690.8	716.6
47.5°	517.1	520.3	565.1	658.7	690.6
50°	480.6	484.8	537.3	630.0	671.3
52.5°	441.1	449.0	510.2	602.9	644.5
55°	404.0	410.6	475.7	579.8	625.9
57.5°	370.2	374.1	440.2	550.6	585.4
60°	336.9	337.8	406.7	518.3	551.6
62.5°	298.7	300.3	372.2	480.1	524.7
65°	255.7	263.8	335.2	443.6	483.8
67.5°	215.7	229.8	297.3	410.1	431.1
70°	172.8	196.7	260.3	370.7	385.6
72.5°	133.4	161.5	222.2	326.7	347.6
75°	96.7	128.2	186.9	287.2	305.2
77.5°	65.1	97.1	153.7	243.5	267.4
80°	39.0	70.9	124.2	203.1	230.0
82.5°	19.9	47.6	96.4	170.3	194.4
85°	8.7	30.1	72.8	141.3	162.2
87.5°	2.4	17.1	53.6	114.2	131.9
90°	0.2	9.0	38.2	89.6	105.6
92.5°	0.2	4.3	26.9	67.7	80.0
95°	0.2	2.3	16.7	49.1	60.0
97.5°	0.2	1.3	10.2	34.8	44.0
100°	0.2	1.1	6.0	23.1	31.4
102.5°	0.2	1.3	4.1	14.7	20.5
105°	0.2	1.3	3.4	9.6	13.5
107.5°	0.4	1.3	3.0	7.2	9.4
110°	0.2	1.1	3.2	5.5	7.3

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CATALOG NUMBER: HVL8-2-LD4-2LO-50-UNV-C-EDD

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.4	0.9	3.0	4.5	5.5
115°	0.2	0.8	2.6	4.3	4.5
117.5°	0.4	0.6	2.1	4.3	4.5
120°	0.4	0.4	1.7	4.1	4.7
122.5°	0.4	0.4	1.3	3.8	4.5
125°	0.2	0.4	1.1	2.8	4.0
127.5°	0.4	0.4	0.9	2.3	3.0
130°	0.4	0.4	0.8	1.7	2.3
132.5°	0.4	0.4	0.6	1.3	1.7
135°	0.4	0.4	0.4	0.9	1.3
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)