

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: P517748

Luminaire Tested: HVL8-1-LD4-1LO-40-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: P517748
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-1-LD4-1LO-40-UNV-C-EDD
Description: 1 FOOT, 8 INCH WIDE, HVL LED LUMINAIRE, WITH 4000K, 80 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

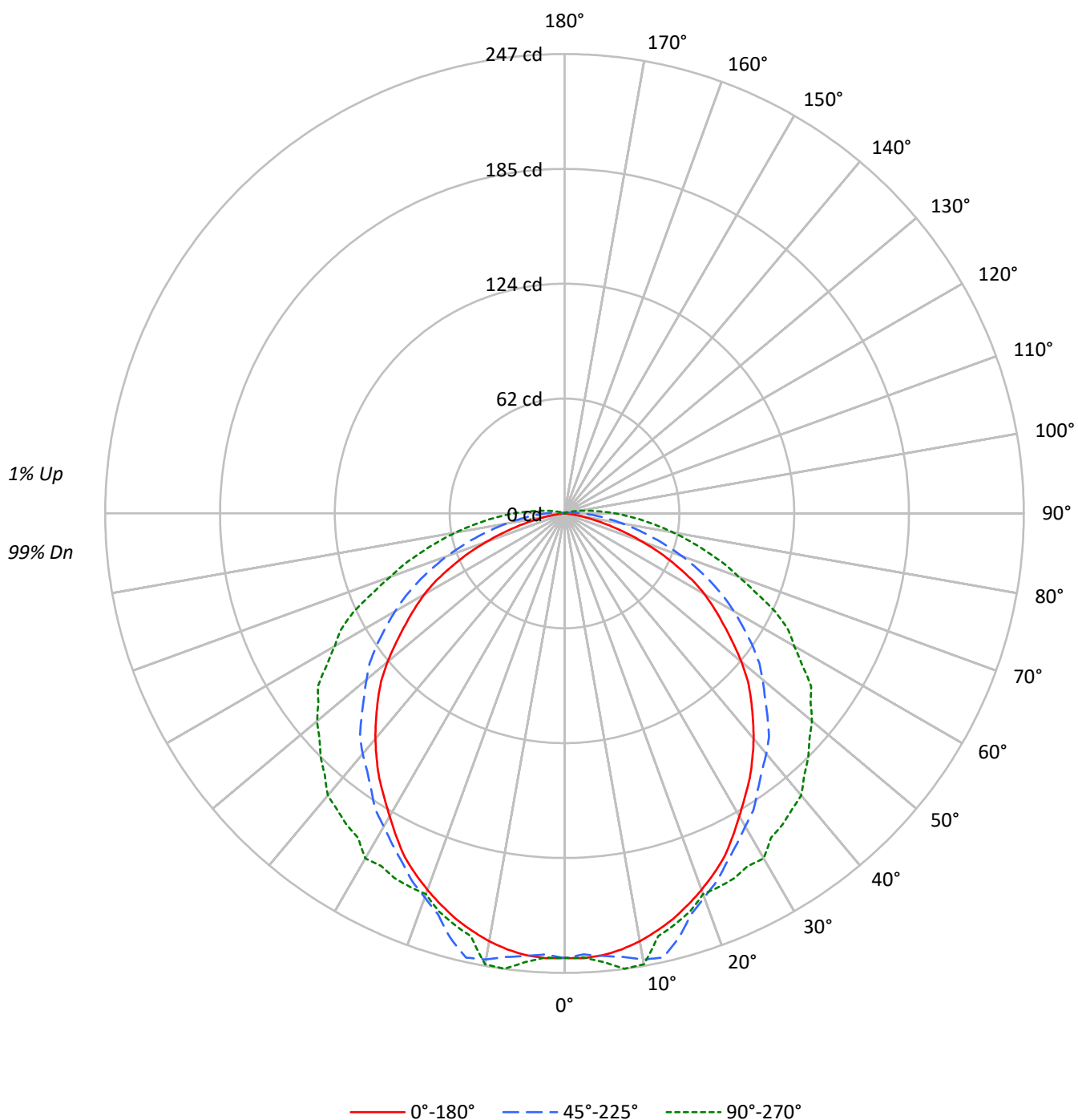
Lumens per Lamp: N/A
Luminaire Lumens: 720.0 lumens
Efficiency: N/A
Efficacy: 124.1 lumens/watt
Spacing Criteria (0/90/45): 1.18 / 1.32 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.67' x L: 1' x H: 0.17')
CIE Type: Direct

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
RCR																	
0	119	119	119	119	116	116	116	116	110	110	110		105	105	105		101
1	108	103	98	94	105	100	96	92	96	92	89		91	89	86		87
2	98	89	82	76	95	87	80	75	83	78	73		80	75	71		76
3	89	78	69	63	86	76	68	62	73	66	61		70	64	59		67
4	81	69	60	53	79	67	59	52	65	57	51		62	56	51		60
5	75	61	52	45	72	60	51	45	58	50	44		56	49	44		54
6	69	55	46	40	67	54	46	39	52	45	39		50	44	38		49
7	64	50	41	35	62	49	41	35	47	40	34		46	39	34		44
8	59	46	37	31	58	45	37	31	43	36	31		42	35	30		41
9	55	42	34	28	54	41	33	28	40	33	28		39	32	27		38
10	52	39	31	25	51	38	30	25	37	30	25		36	29	25		35

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3859	3859	3859
5°	3808	3773	3840
10°	3719	3795	3864
15°	3611	3665	3586
20°	3489	3409	3430
25°	3366	3237	3451
30°	3197	3096	3490
35°	3066	2961	3427
40°	2925	2852	3449
45°	2777	2721	3387
50°	2605	2584	3361
55°	2376	2439	3358
60°	2182	2249	3215
65°	1863	2030	3114
70°	1447	1756	2793
75°	961	1435	2549
80°	483	1117	2288
85°	140	797	2017

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 45°

Luminance: 3387 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	23.0	3.2
10°-20°	65.4	9.1
20°-30°	97.3	13.5
30°-40°	117.0	16.2
40°-50°	123.1	17.1
50°-60°	114.3	15.9
60°-70°	90.3	12.5
70°-80°	55.2	7.7
80°-90°	24.0	3.3
90°-100°	7.5	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°	185.7	25.8
0°-40°	302.7	42.0
0°-60°	540.1	75.0
0°-90°	709.7	98.6
90°-120°	9.8	1.4
90°-150°	10.3	1.4
90°-180°	10.0	1.4
0°-180°	720.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	239	239	239	239	239	
5°	238	238	239	241	242	23
15°	226	234	237	229	229	64
25°	204	217	207	213	216	93
35°	174	178	181	198	204	109
45°	142	143	154	179	185	109
55°	104	106	123	150	162	94
65°	66	68	87	115	125	66
75°	25	33	48	74	79	27
85°	2	8	19	37	42	3
90°	0	2	10	23	27	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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CATALOG NUMBER: HVL8-1-LD4-1LO-40-UNV-C-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	239.0	239.0	239.0	239.0	239.0
2.5°	239.3	238.7	237.3	238.6	239.0
5°	238.4	237.9	238.8	241.4	242.1
7.5°	236.4	238.3	240.5	245.3	246.9
10°	233.5	237.0	243.5	247.7	246.1
12.5°	229.8	235.8	244.6	236.5	232.8
15°	225.7	234.3	236.6	228.8	228.9
17.5°	220.7	233.1	226.1	225.9	224.4
20°	215.4	229.0	219.7	219.3	217.8
22.5°	209.7	223.6	214.0	213.2	217.3
25°	203.6	216.6	206.7	212.9	216.3
27.5°	195.8	207.3	200.5	209.3	213.6
30°	188.0	197.8	194.3	206.5	214.2
32.5°	180.6	187.8	189.1	205.4	206.7
35°	173.7	178.5	181.2	197.6	204.3
37.5°	166.0	167.3	174.4	194.4	200.8
40°	158.2	157.4	168.8	189.0	198.0
42.5°	149.9	149.6	162.8	186.3	190.8
45°	141.9	142.6	154.3	178.7	185.4
47.5°	133.8	134.6	146.2	170.4	178.7
50°	124.3	125.4	139.0	163.0	173.7
52.5°	114.1	116.2	132.0	156.0	166.8
55°	104.5	106.2	123.1	150.0	161.9
57.5°	95.8	96.8	113.9	142.5	151.5
60°	87.1	87.4	105.2	134.1	142.7
62.5°	77.3	77.7	96.3	124.2	135.7
65°	66.2	68.3	86.7	114.8	125.2
67.5°	55.8	59.4	76.9	106.1	111.5
70°	44.7	50.9	67.3	95.9	99.8
72.5°	34.5	41.8	57.5	84.5	89.9
75°	25.0	33.2	48.3	74.3	79.0
77.5°	16.8	25.1	39.8	63.0	69.2
80°	10.1	18.4	32.1	52.5	59.5
82.5°	5.2	12.3	24.9	44.1	50.3
85°	2.2	7.8	18.8	36.6	42.0
87.5°	0.6	4.4	13.9	29.6	34.1
90°	0.0	2.3	9.9	23.2	27.3
92.5°	0.0	1.1	7.0	17.5	20.7
95°	0.0	0.6	4.3	12.7	15.5
97.5°	0.0	0.3	2.6	9.0	11.4
100°	0.0	0.3	1.6	6.0	8.1
102.5°	0.0	0.3	1.1	3.8	5.3
105°	0.0	0.3	0.9	2.5	3.5
107.5°	0.1	0.3	0.8	1.9	2.4
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)