

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: P517877

Luminaire Tested: HVL8-2-LD4-1HI-40-UNV-O-EDD-90

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: P517877
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-2-LD4-1HI-40-UNV-O-EDD-90
Description: 2 FOOT, 8 INCH WIDE, HVL LED LUMINAIRE, WITH 4000K, 90 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2163.0 lumens
Efficiency: N/A
Efficacy: 100.6 lumens/watt
Spacing Criteria (0/90/45): 1.25 / 1.27 / 1.38
Luminous Opening: Rectangular w/ Sides (W: 0.67' x L: 2' x H: 0.17')
CIE Type: Direct

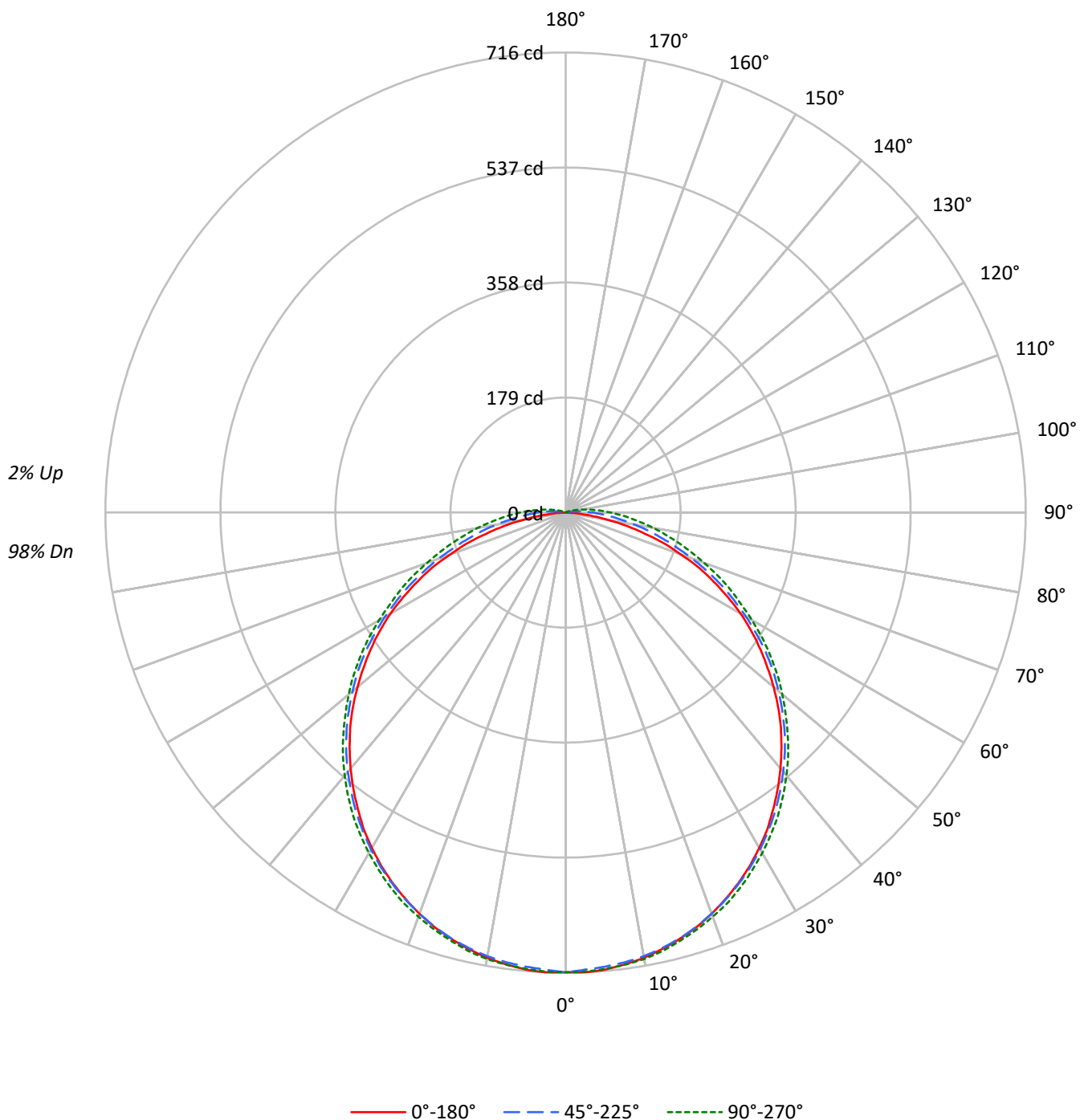
Input Watts (W): 21.5
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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
RCR																	
0	119	119	119	119	116	116	116	116	110	110	110		105	105	105		101
1	108	102	98	94	105	100	96	92	95	92	89		91	88	86		87
2	98	89	82	76	95	87	80	75	83	77	73		79	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	52		62	56	51		60
5	75	61	52	45	72	60	52	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°	5775	5775	5775
5°	5743	5632	5652
10°	5684	5518	5538
15°	5614	5393	5403
20°	5541	5256	5270
25°	5456	5116	5137
30°	5360	4967	4984
35°	5245	4806	4833
40°	5125	4637	4657
45°	4994	4453	4467
50°	4830	4242	4262
55°	4651	4013	4036
60°	4440	3720	3773
65°	4118	3394	3513
70°	3672	3013	3210
75°	3062	2597	2933
80°	2194	2188	2682
85°	1058	1772	2442

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 4994 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	67.7	3.1
10°-20°	194.2	9.0
20°-30°	294.6	13.6
30°-40°	356.3	16.5
40°-50°	371.8	17.2
50°-60°	339.9	15.7
60°-70°	265.0	12.2
70°-80°	165.7	7.7
80°-90°	75.3	3.5
90°-100°	25.2	1.2
100°-110°	6.3	0.3
110°-120°	1.0	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°	556.5	25.7
0°-40°	912.8	42.2
0°-60°	1624.5	75.1
0°-90°	2130.4	98.5
90°-120°	32.6	1.5
90°-150°	32.6	1.5
90°-180°	33.0	1.5
0°-180°	2163.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	715	715	715	715	715	
5°	714	712	709	713	713	68
15°	687	688	686	690	690	194
25°	636	637	638	643	644	293
35°	563	566	568	574	576	353
45°	474	478	482	487	489	365
55°	370	374	381	387	389	330
65°	254	258	268	278	282	251
75°	129	137	156	175	182	137
85°	22	41	71	93	102	28
90°	0	15	42	63	70	1
95°	0	4	22	39	45	0
105°	0	0	4	10	14	0
115°	0	0	1	2	3	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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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	715.4	715.4	715.4	715.4	715.4
2.5°	716.2	715.2	712.0	715.2	715.1
5°	713.9	712.5	709.3	712.7	712.7
7.5°	709.1	708.6	705.8	709.7	709.7
10°	703.6	703.4	701.1	705.3	705.4
12.5°	695.8	696.5	694.3	698.4	698.9
15°	686.7	687.9	686.0	689.9	689.8
17.5°	676.8	677.4	676.1	680.5	680.3
20°	664.5	665.3	664.3	668.8	669.3
22.5°	650.8	652.0	651.8	656.5	657.9
25°	636.3	636.8	637.5	642.9	643.9
27.5°	620.3	621.1	622.3	627.2	628.2
30°	602.7	604.1	605.4	610.5	611.8
32.5°	584.2	585.5	587.2	593.8	594.5
35°	563.3	565.8	568.2	573.9	576.3
37.5°	542.4	545.6	547.8	553.8	555.7
40°	520.3	523.5	527.0	533.4	534.6
42.5°	497.2	500.9	505.1	510.8	512.8
45°	473.9	478.1	482.0	486.7	489.1
47.5°	448.8	453.0	457.7	463.1	464.6
50°	422.8	427.7	432.7	437.8	440.5
52.5°	396.1	402.0	407.8	413.2	415.7
55°	369.8	374.2	381.1	386.7	389.2
57.5°	342.5	346.2	352.5	361.6	362.9
60°	314.7	318.1	324.5	331.9	334.9
62.5°	284.0	288.6	295.3	304.7	307.4
65°	254.1	258.5	267.5	278.1	282.5
67.5°	225.3	226.8	238.3	249.4	256.5
70°	191.2	197.0	210.3	224.0	229.4
72.5°	161.9	167.6	182.3	198.3	205.1
75°	128.7	136.6	156.5	175.2	181.8
77.5°	99.5	108.3	132.9	151.8	159.4
80°	69.5	83.1	110.0	131.2	139.5
82.5°	43.7	60.5	89.2	111.5	118.7
85°	22.3	41.1	70.7	93.4	101.7
87.5°	5.9	26.6	55.0	76.7	85.2
90°	0.2	15.3	41.7	62.6	70.2
92.5°	0.2	8.6	31.0	49.8	57.5
95°	0.2	4.0	21.6	39.1	45.2
97.5°	0.2	1.7	14.8	29.5	35.6
100°	0.2	0.8	9.4	21.4	26.6
102.5°	0.3	0.5	5.9	15.3	19.6
105°	0.3	0.5	3.5	10.5	14.0
107.5°	0.3	0.5	2.0	7.1	9.6
110°	0.5	0.5	1.2	4.4	6.4

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.5	0.5	0.7	2.9	4.2
115°	0.5	0.5	0.7	1.9	2.7
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)