

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: P518217

Luminaire Tested: HVL8-8-LD4-2HI-50-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: P518217
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-8-LD4-2HI-50-UNV-O-EDD-90
Description: 8 FOOT, 8 INCH WIDE, HVL LED LUMINAIRE, WITH 5000K, 90 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 14536.0 lumens
Efficiency: N/A
Efficacy: 84.4 lumens/watt
Spacing Criteria (0/90/45): 1.25 / 1.27 / 1.38
Luminous Opening: Rectangular w/ Sides (W: 0.67' x L: 8' x H: 0.17')
CIE Type: Direct

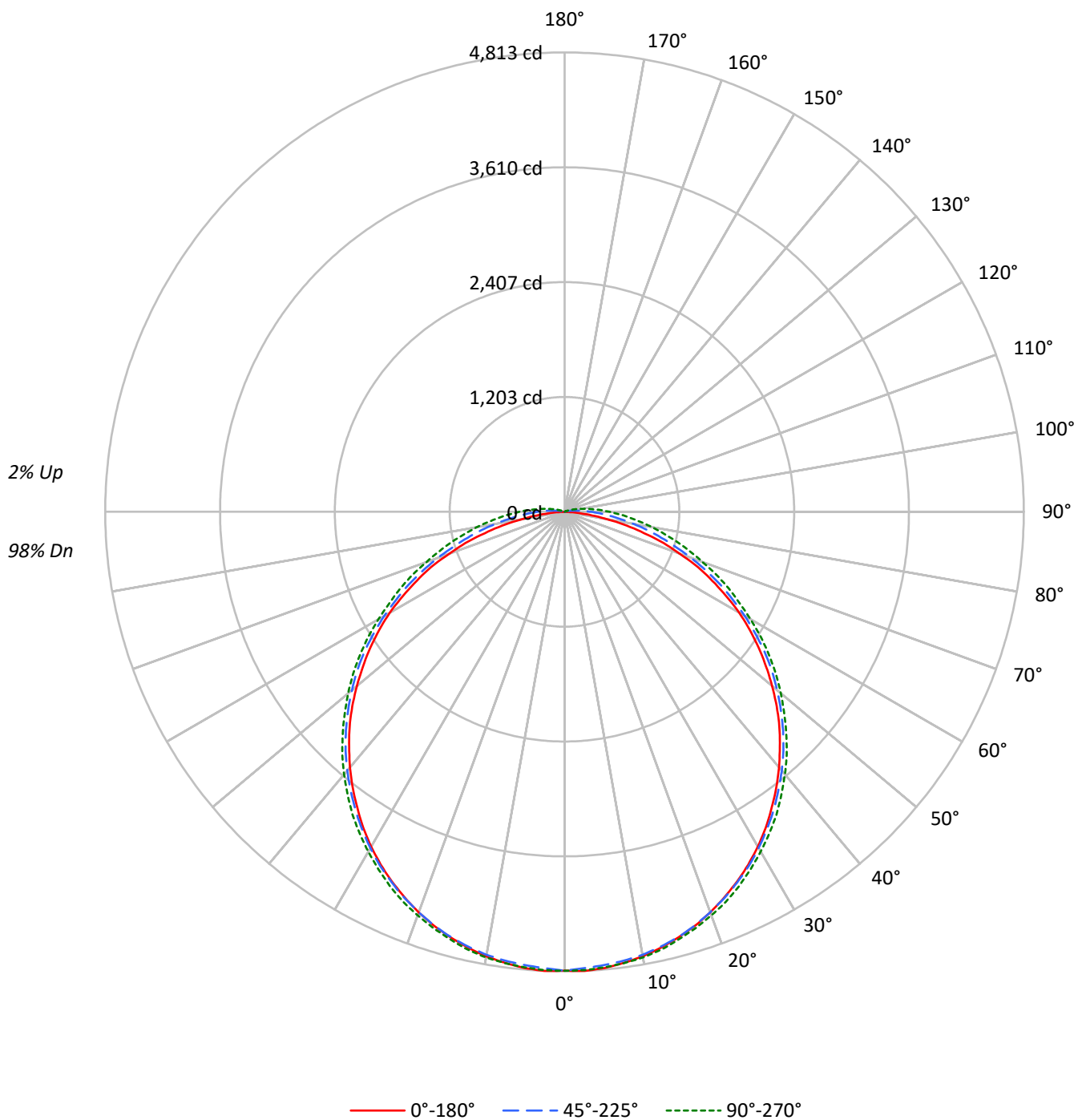
Input Watts (W): 172.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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°	9703	9703	9703
5°	9702	9498	9496
10°	9655	9340	9305
15°	9589	9163	9077
20°	9518	8963	8855
25°	9431	8758	8630
30°	9328	8538	8374
35°	9192	8295	8120
40°	9053	8039	7824
45°	8904	7759	7504
50°	8705	7434	7161
55°	8493	7077	6782
60°	8239	6609	6340
65°	7807	6085	5901
70°	7173	5464	5391
75°	6256	4782	4928
80°	4853	4116	4505
85°	2798	3448	4102

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 8904 cd/sqm

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CATALOG NUMBER: HVL8-8-LD4-2HI-50-UNV-O-EDD-90

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	455.0	3.1
10°-20°	1305.0	9.0
20°-30°	1980.1	13.6
30°-40°	2394.3	16.5
40°-50°	2498.3	17.2
50°-60°	2284.2	15.7
60°-70°	1780.6	12.2
70°-80°	1113.8	7.7
80°-90°	505.9	3.5
90°-100°	169.5	1.2
100°-110°	42.6	0.3
110°-120°	6.7	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°	3740.1	25.7
0°-40°	6134.4	42.2
0°-60°	10916.8	75.1
0°-90°	14317.2	98.5
90°-120°	218.8	1.5
90°-150°	218.8	1.5
90°-180°	219.0	1.5
0°-180°	14536.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4808	4808	4808	4808	4808	
5°	4797	4788	4767	4790	4790	456
15°	4615	4623	4610	4636	4635	1303
25°	4276	4280	4284	4320	4327	1970
35°	3785	3802	3818	3857	3873	2369
45°	3185	3213	3239	3271	3287	2454
55°	2485	2515	2561	2599	2616	2220
65°	1708	1737	1798	1869	1898	1690
75°	865	918	1052	1178	1222	922
85°	150	276	475	628	683	189
90°	1	103	280	420	472	6
95°	1	27	145	263	304	1
105°	2	3	24	70	94	2
115°	3	3	4	12	18	2
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°	4807.6	4807.6	4807.6	4807.6	4807.6
2.5°	4813.3	4806.5	4785.0	4806.5	4805.4
5°	4797.4	4788.4	4766.8	4789.5	4789.5
7.5°	4765.7	4762.3	4743.0	4769.1	4769.1
10°	4728.3	4727.2	4711.3	4739.6	4740.8
12.5°	4676.2	4680.7	4666.0	4693.2	4696.6
15°	4615.0	4622.9	4610.4	4636.5	4635.4
17.5°	4548.1	4552.6	4543.6	4573.0	4571.9
20°	4465.4	4471.0	4464.2	4494.8	4498.2
22.5°	4373.6	4381.5	4380.4	4412.1	4421.2
25°	4276.1	4279.5	4284.0	4320.3	4327.1
27.5°	4168.4	4174.1	4182.0	4214.9	4221.7
30°	4050.6	4059.6	4068.7	4102.7	4111.8
32.5°	3925.9	3935.0	3946.3	3990.5	3995.0
35°	3785.4	3802.4	3818.2	3856.8	3872.6
37.5°	3644.8	3666.4	3681.1	3721.9	3734.4
40°	3496.4	3517.9	3541.7	3584.8	3592.7
42.5°	3341.1	3366.0	3394.4	3432.9	3446.5
45°	3184.7	3213.0	3239.1	3270.8	3286.7
47.5°	3015.8	3044.2	3075.9	3112.2	3122.4
50°	2841.3	2874.2	2908.2	2942.2	2960.3
52.5°	2662.2	2701.9	2740.4	2776.7	2793.7
55°	2485.4	2514.9	2561.3	2598.7	2615.8
57.5°	2301.8	2326.7	2368.7	2429.9	2438.9
60°	2114.8	2137.5	2180.5	2230.4	2250.8
62.5°	1908.5	1939.1	1984.5	2047.9	2066.1
65°	1707.9	1737.4	1797.5	1868.9	1898.3
67.5°	1514.1	1524.3	1601.4	1676.2	1723.8
70°	1285.2	1323.7	1413.3	1505.1	1541.3
72.5°	1088.0	1126.5	1225.1	1332.8	1378.1
75°	864.7	918.0	1051.7	1177.5	1221.7
77.5°	668.7	727.6	893.1	1020.0	1071.0
80°	466.9	558.7	738.9	881.7	937.3
82.5°	293.5	406.9	599.5	749.1	797.9
85°	149.6	276.5	474.9	627.9	683.4
87.5°	39.7	179.1	369.5	515.7	572.3
90°	1.1	103.1	279.9	420.5	471.5
92.5°	1.1	57.8	208.5	334.3	386.5
95°	1.1	27.2	145.1	262.9	303.7
97.5°	1.1	11.3	99.7	198.3	239.1
100°	1.1	5.7	63.5	143.9	179.1
102.5°	2.3	3.4	39.7	103.1	131.5
105°	2.3	3.4	23.8	70.3	94.1
107.5°	2.3	3.4	13.6	47.6	64.6
110°	3.4	3.4	7.9	29.5	43.1

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	3.4	3.4	4.5	19.3	28.3
115°	3.4	3.4	4.5	12.5	18.1
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)