

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: P518232

Luminaire Tested: HVL8-8-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: P518232
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-8-LD4-2LO-50-UNV-C-EDD
Description: 8 FOOT, 8 INCH WIDE, HVL LED LUMINAIRE, WITH 5000K, 80 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9684.0 lumens
Efficiency: N/A
Efficacy: 105.0 lumens/watt
Spacing Criteria (0/90/45): 1.18 / 1.32 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.67' x L: 8' x H: 0.17')
CIE Type: Direct

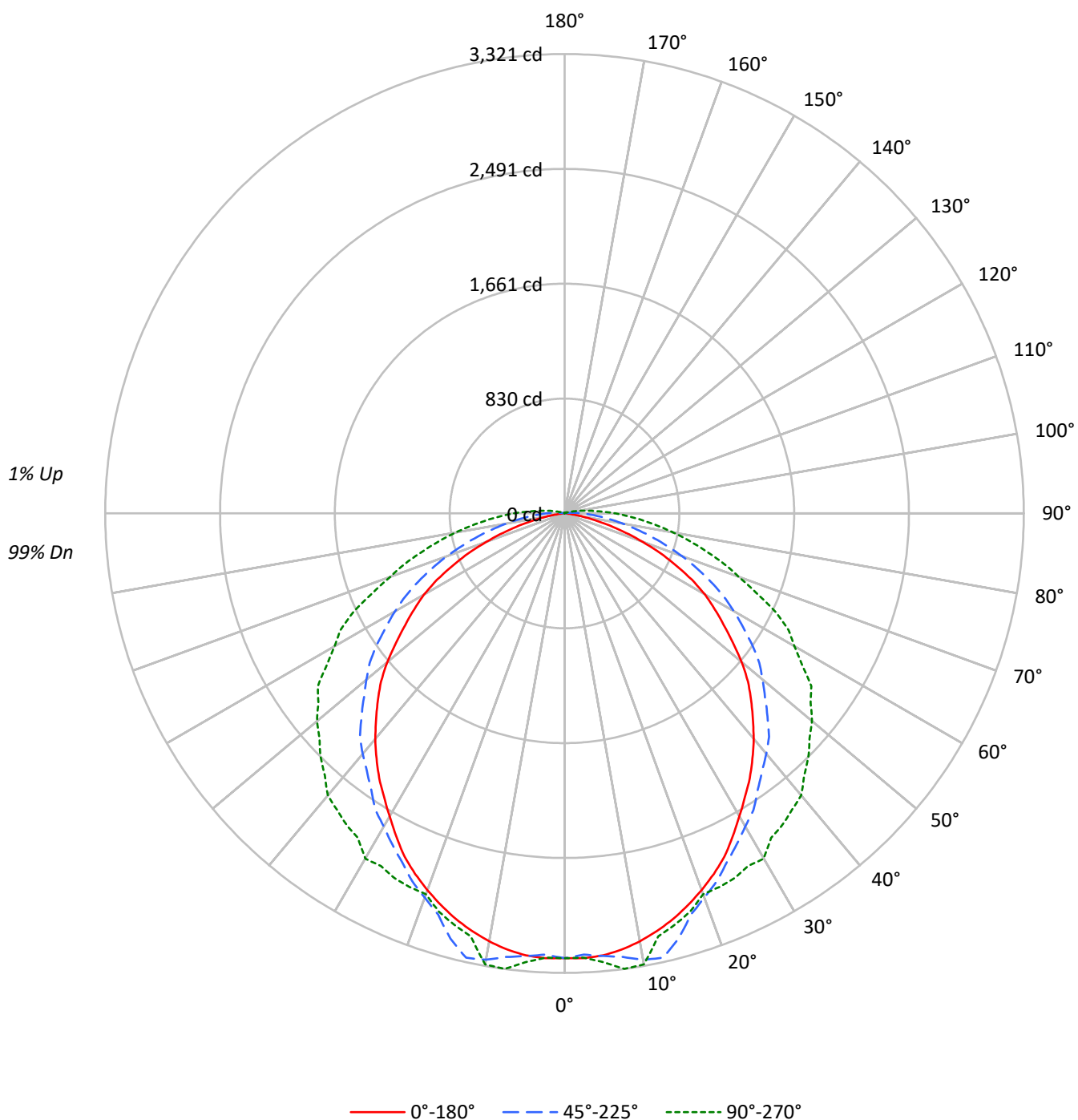
Input Watts (W): 92.2
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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°	6488	6488	6488
5°	6485	6399	6456
10°	6411	6493	6496
15°	6306	6325	6029
20°	6177	5932	5766
25°	6038	5683	5802
30°	5822	5483	5866
35°	5672	5293	5762
40°	5511	5153	5798
45°	5337	4971	5694
50°	5124	4779	5650
55°	4804	4574	5647
60°	4566	4289	5406
65°	4068	3948	5234
70°	3355	3501	4693
75°	2435	2957	4284
80°	1408	2408	3846
85°	563	1840	3388

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 45°

Luminance: 5694 cd/sqm

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CATALOG NUMBER: HVL8-8-LD4-2LO-50-UNV-C-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	309.0	3.2
10°-20°	879.8	9.1
20°-30°	1309.1	13.5
30°-40°	1573.5	16.2
40°-50°	1656.2	17.1
50°-60°	1536.8	15.9
60°-70°	1215.1	12.5
70°-80°	742.2	7.7
80°-90°	323.4	3.3
90°-100°	100.7	1.0
100°-110°	22.6	0.2
110°-120°	9.1	0.1
120°-130°	5.1	0.1
130°-140°	1.4	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°	2497.9	25.8
0°-40°	4071.4	42.0
0°-60°	7264.4	75.0
0°-90°	9545.1	98.6
90°-120°	132.4	1.4
90°-150°	138.9	1.4
90°-180°	139.0	1.4
0°-180°	9684.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3215	3215	3215	3215	3215	
5°	3207	3200	3211	3247	3256	304
15°	3035	3152	3182	3077	3079	855
25°	2738	2913	2780	2863	2909	1257
35°	2336	2401	2437	2658	2748	1460
45°	1909	1917	2075	2404	2494	1471
55°	1406	1429	1655	2018	2178	1263
65°	890	918	1166	1543	1684	881
75°	337	446	650	999	1062	367
85°	30	105	253	492	564	47
90°	1	31	133	312	367	1
95°	1	8	58	171	209	1
105°	1	5	12	33	47	1
115°	1	3	9	15	16	1
125°	1	1	4	10	14	1
135°	1	1	1	3	5	1
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°	3214.6	3214.6	3214.6	3214.6	3214.6
2.5°	3218.5	3210.0	3192.3	3209.3	3213.9
5°	3206.7	3200.2	3211.3	3247.3	3256.5
7.5°	3179.9	3204.7	3234.2	3299.7	3320.6
10°	3139.9	3187.1	3275.5	3331.1	3309.5
12.5°	3091.5	3171.3	3289.9	3181.2	3130.7
15°	3035.1	3151.7	3182.5	3077.0	3079.0
17.5°	2969.0	3135.3	3040.4	3037.8	3018.8
20°	2897.6	3080.3	2954.6	2949.4	2929.1
22.5°	2821.0	3007.6	2878.6	2868.2	2923.2
25°	2737.8	2912.7	2779.8	2862.9	2909.4
27.5°	2633.7	2788.3	2697.2	2815.1	2873.4
30°	2528.3	2659.9	2612.8	2777.1	2880.6
32.5°	2429.4	2525.7	2543.4	2762.7	2779.8
35°	2335.8	2400.6	2436.6	2658.0	2748.3
37.5°	2233.0	2250.7	2346.3	2614.1	2701.2
40°	2128.2	2117.1	2270.3	2542.1	2662.5
42.5°	2015.6	2011.6	2189.8	2506.0	2566.3
45°	1908.8	1917.3	2075.2	2403.9	2493.6
47.5°	1799.5	1810.6	1966.5	2291.9	2403.2
50°	1672.4	1686.8	1869.5	2192.4	2335.8
52.5°	1534.9	1562.4	1775.2	2098.1	2242.8
55°	1405.9	1428.8	1655.4	2017.5	2178.0
57.5°	1288.1	1301.8	1531.6	1916.0	2037.2
60°	1172.1	1175.4	1415.1	1803.4	1919.3
62.5°	1039.2	1045.1	1295.3	1670.5	1825.7
65°	889.9	918.1	1166.3	1543.4	1683.6
67.5°	750.4	799.5	1034.6	1426.9	1500.2
70°	601.1	684.3	905.6	1290.0	1341.7
72.5°	464.3	561.8	773.4	1136.8	1209.5
75°	336.6	445.9	650.2	999.3	1062.1
77.5°	226.6	337.9	535.0	847.4	930.5
80°	135.5	246.9	432.2	706.6	800.2
82.5°	69.4	165.7	335.3	592.6	676.4
85°	30.1	104.8	253.4	491.8	564.5
87.5°	8.5	59.6	186.6	397.5	459.0
90°	0.7	31.4	132.9	311.7	367.4
92.5°	0.7	15.1	93.6	235.7	278.3
95°	0.7	7.9	58.3	170.9	208.9
97.5°	0.7	4.6	35.4	121.1	153.2
100°	0.7	3.9	21.0	80.5	109.4
102.5°	0.7	4.6	14.4	51.1	71.4
105°	0.7	4.6	11.8	33.4	47.1
107.5°	1.3	4.6	10.5	24.9	32.7
110°	0.7	3.9	11.1	19.0	25.5

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	1.3	3.3	10.5	15.7	19.0
115°	0.7	2.6	9.2	15.1	15.7
117.5°	1.3	2.0	7.2	15.1	15.7
120°	1.3	1.3	5.9	14.4	16.4
122.5°	1.3	1.3	4.6	13.1	15.7
125°	0.7	1.3	3.9	9.8	13.8
127.5°	1.3	1.3	3.3	7.9	10.5
130°	1.3	1.3	2.6	5.9	7.9
132.5°	1.3	1.3	2.0	4.6	5.9
135°	1.3	1.3	1.3	3.3	4.6
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)