

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: P517703

Luminaire Tested: HVL12-8-LD4-3LO-50-UNV-C-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: P517703
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL12-8-LD4-3LO-50-UNV-C-EDD-90
Description: 8 FOOT, 12 INCH WIDE, HVL LED LUMINAIRE, WITH 5000K, 90 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 18327.0 lumens
Efficiency: N/A
Efficacy: 132.4 lumens/watt
Spacing Criteria (0/90/45): 1.18 / 1.32 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 1' x L: 8' x H: 0.17')
CIE Type: Direct

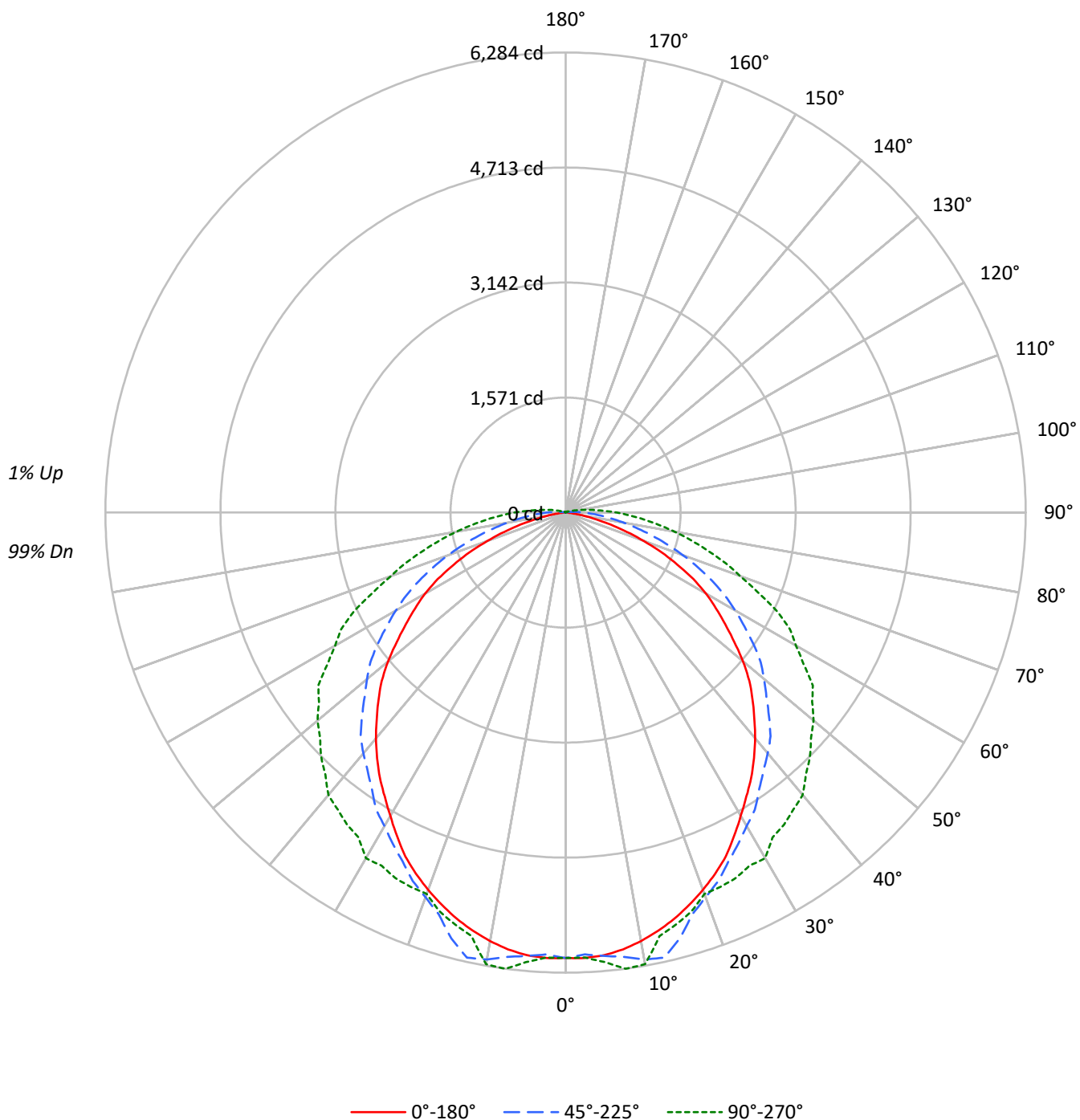
Input Watts (W): 138.4
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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°	8185	8185	8185
5°	8182	8114	8204
10°	8089	8276	8313
15°	7957	8102	7770
20°	7793	7638	7483
25°	7618	7355	7585
30°	7345	7136	7726
35°	7156	6931	7650
40°	6953	6791	7764
45°	6734	6598	7697
50°	6465	6395	7719
55°	6061	6179	7810
60°	5761	5861	7585
65°	5133	5471	7473
70°	4233	4942	6851
75°	3073	4279	6442
80°	1777	3617	6032
85°	711	2943	5676

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 55°

Luminance: 7810 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	584.7	3.2
10°-20°	1665.1	9.1
20°-30°	2477.5	13.5
30°-40°	2977.9	16.2
40°-50°	3134.4	17.1
50°-60°	2908.4	15.9
60°-70°	2299.6	12.5
70°-80°	1404.7	7.7
80°-90°	612.0	3.3
90°-100°	190.5	1.0
100°-110°	42.8	0.2
110°-120°	17.2	0.1
120°-130°	9.7	0.1
130°-140°	2.6	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°	4727.2	25.8
0°-40°	7705.1	42.0
0°-60°	13747.9	75.0
0°-90°	18064.2	98.6
90°-120°	250.5	1.4
90°-150°	262.8	1.4
90°-180°	263.0	1.4
0°-180°	18327.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	6084	6084	6084	6084	6084	
5°	6069	6056	6077	6146	6163	575
15°	5744	5965	6023	5823	5827	1618
25°	5181	5512	5261	5418	5506	2379
35°	4420	4543	4611	5030	5201	2763
45°	3612	3629	3927	4549	4719	2785
55°	2661	2704	3133	3818	4122	2391
65°	1684	1738	2207	2921	3186	1668
75°	637	844	1231	1891	2010	695
85°	57	198	480	931	1068	88
90°	1	60	252	590	695	3
95°	1	15	110	323	395	1
105°	1	9	22	63	89	2
115°	1	5	17	28	30	2
125°	1	2	7	19	26	2
135°	2	2	2	6	9	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°	6083.6	6083.6	6083.6	6083.6	6083.6
2.5°	6091.0	6074.9	6041.4	6073.7	6082.3
5°	6068.7	6056.3	6077.4	6145.5	6162.9
7.5°	6017.9	6065.0	6120.7	6244.7	6284.3
10°	5942.3	6031.5	6198.8	6304.2	6263.3
12.5°	5850.6	6001.8	6226.1	6020.4	5924.9
15°	5744.0	5964.6	6022.8	5823.3	5827.0
17.5°	5618.8	5933.6	5753.9	5749.0	5713.0
20°	5483.8	5829.5	5591.6	5581.7	5543.2
22.5°	5338.8	5692.0	5447.8	5428.0	5532.1
25°	5181.4	5512.3	5260.7	5418.1	5506.1
27.5°	4984.3	5276.8	5104.5	5327.6	5437.9
30°	4784.8	5033.9	4944.7	5255.7	5451.5
32.5°	4597.7	4779.9	4813.3	5228.5	5260.7
35°	4420.5	4543.2	4611.3	5030.2	5201.2
37.5°	4225.9	4259.4	4440.3	4947.2	5112.0
40°	4027.6	4006.6	4296.5	4810.8	5038.9
42.5°	3814.5	3807.0	4144.1	4742.7	4856.7
45°	3612.5	3628.6	3927.2	4549.4	4719.1
47.5°	3405.5	3426.6	3721.5	4337.4	4548.1
50°	3165.1	3192.4	3538.1	4149.1	4420.5
52.5°	2904.8	2956.9	3359.7	3970.6	4244.5
55°	2660.7	2704.1	3132.9	3818.2	4121.8
57.5°	2437.6	2463.7	2898.6	3626.1	3855.4
60°	2218.3	2224.5	2678.1	3412.9	3632.3
62.5°	1966.7	1977.9	2451.3	3161.4	3455.1
65°	1684.2	1737.5	2207.1	2921.0	3186.2
67.5°	1420.2	1513.1	1958.0	2700.4	2839.2
70°	1137.6	1295.0	1713.9	2441.4	2539.3
72.5°	878.6	1063.3	1463.6	2151.4	2288.9
75°	637.0	843.9	1230.6	1891.1	2010.1
77.5°	428.8	639.5	1012.5	1603.6	1761.0
80°	256.5	467.2	817.9	1337.2	1514.4
82.5°	131.4	313.5	634.5	1121.5	1280.2
85°	57.0	198.3	479.6	930.7	1068.2
87.5°	16.1	112.8	353.2	752.2	868.7
90°	1.2	59.5	251.6	589.9	695.2
92.5°	1.2	28.5	177.2	446.1	526.7
95°	1.2	14.9	110.3	323.4	395.3
97.5°	1.2	8.7	66.9	229.3	290.0
100°	1.2	7.4	39.7	152.4	207.0
102.5°	1.2	8.7	27.3	96.7	135.1
105°	1.2	8.7	22.3	63.2	89.2
107.5°	2.5	8.7	19.8	47.1	62.0
110°	1.2	7.4	21.1	35.9	48.3

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	2.5	6.2	19.8	29.7	35.9
115°	1.2	5.0	17.3	28.5	29.7
117.5°	2.5	3.7	13.6	28.5	29.7
120°	2.5	2.5	11.2	27.3	31.0
122.5°	2.5	2.5	8.7	24.8	29.7
125°	1.2	2.5	7.4	18.6	26.0
127.5°	2.5	2.5	6.2	14.9	19.8
130°	2.5	2.5	5.0	11.2	14.9
132.5°	2.5	2.5	3.7	8.7	11.2
135°	2.5	2.5	2.5	6.2	8.7
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)