

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: P517655

Luminaire Tested: HVL12-8-LD4-2LO-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: P517655
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL12-8-LD4-2LO-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: 11621.0 lumens
Efficiency: N/A
Efficacy: 122.7 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

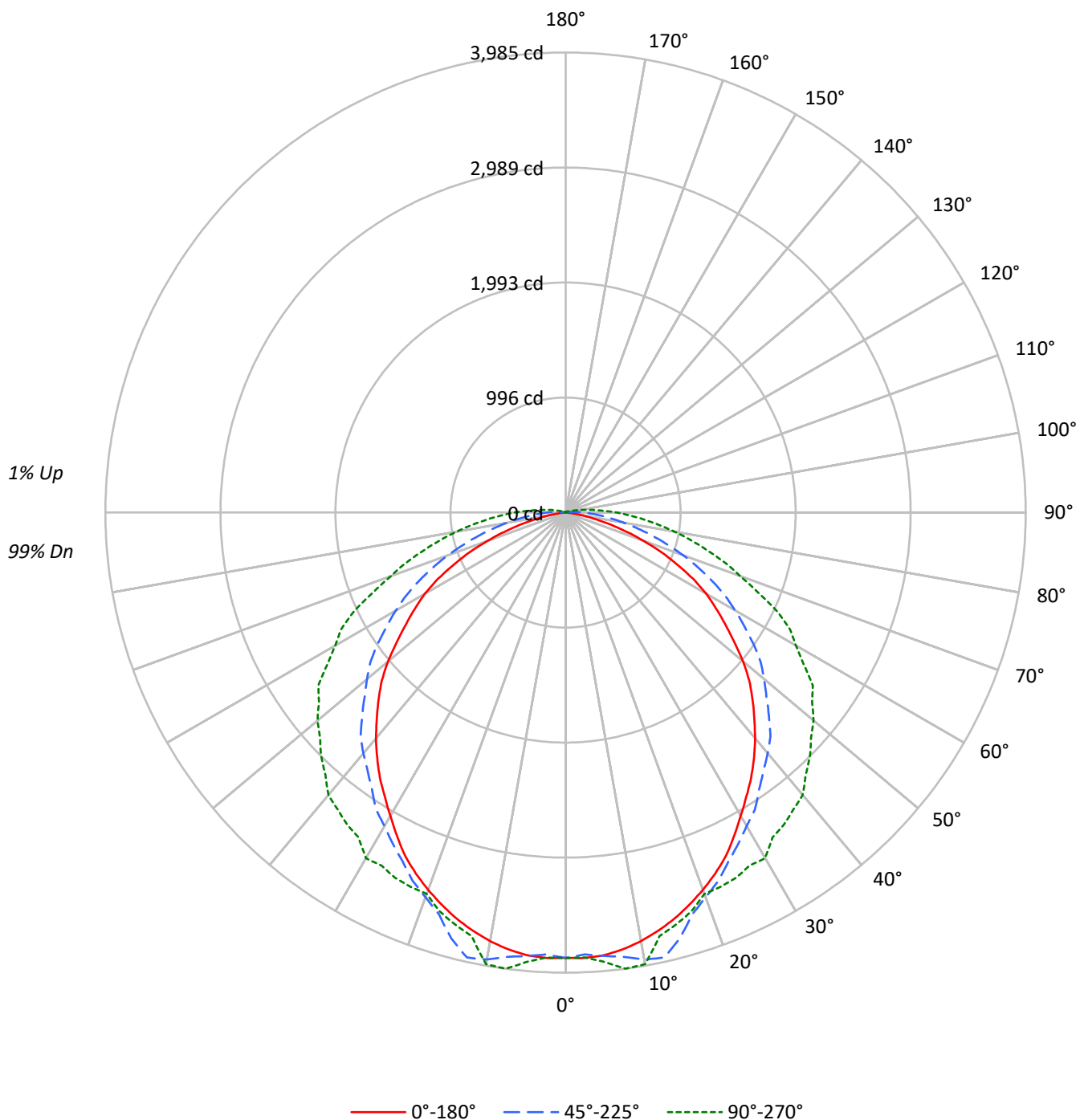
Input Watts (W): 94.7
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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°	5190	5190	5190
5°	5188	5145	5202
10°	5129	5247	5271
15°	5045	5137	4927
20°	4941	4843	4745
25°	4831	4664	4809
30°	4658	4525	4899
35°	4538	4395	4851
40°	4409	4306	4923
45°	4270	4184	4880
50°	4099	4055	4895
55°	3843	3918	4952
60°	3653	3716	4809
65°	3254	3469	4738
70°	2684	3134	4344
75°	1948	2714	4085
80°	1127	2293	3825
85°	450	1866	3599

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 55°

Luminance: 4952 cd/sqm

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CATALOG NUMBER: HVL12-8-LD4-2LO-50-UNV-C-EDD-90

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	370.7	3.2
10°-20°	1055.8	9.1
20°-30°	1570.9	13.5
30°-40°	1888.3	16.2
40°-50°	1987.5	17.1
50°-60°	1844.2	15.9
60°-70°	1458.2	12.5
70°-80°	890.7	7.7
80°-90°	388.1	3.3
90°-100°	120.8	1.0
100°-110°	27.1	0.2
110°-120°	10.9	0.1
120°-130°	6.1	0.1
130°-140°	1.7	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°	2997.5	25.8
0°-40°	4885.8	42.0
0°-60°	8717.4	75.0
0°-90°	11454.3	98.6
90°-120°	158.9	1.4
90°-150°	166.7	1.4
90°-180°	167.0	1.4
0°-180°	11621.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3858	3858	3858	3858	3858	
5°	3848	3840	3854	3897	3908	365
15°	3642	3782	3819	3692	3695	1026
25°	3286	3495	3336	3436	3491	1508
35°	2803	2881	2924	3190	3298	1752
45°	2291	2301	2490	2885	2992	1766
55°	1687	1715	1986	2421	2614	1516
65°	1068	1102	1400	1852	2020	1058
75°	404	535	780	1199	1275	441
85°	36	126	304	590	677	56
90°	1	38	160	374	441	2
95°	1	9	70	205	251	1
105°	1	6	14	40	57	1
115°	1	3	11	18	19	1
125°	1	2	5	12	16	1
135°	2	2	2	4	6	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°	3857.5	3857.5	3857.5	3857.5	3857.5
2.5°	3862.3	3852.0	3830.8	3851.3	3856.8
5°	3848.1	3840.3	3853.6	3896.8	3907.8
7.5°	3815.9	3845.8	3881.1	3959.7	3984.8
10°	3768.0	3824.5	3930.6	3997.4	3971.5
12.5°	3709.8	3805.7	3947.9	3817.5	3757.0
15°	3642.2	3782.1	3819.0	3692.5	3694.9
17.5°	3562.9	3762.5	3648.5	3645.4	3622.6
20°	3477.2	3696.4	3545.6	3539.3	3514.9
22.5°	3385.3	3609.2	3454.4	3441.8	3507.9
25°	3285.5	3495.3	3335.8	3435.6	3491.4
27.5°	3160.5	3346.0	3236.8	3378.2	3448.1
30°	3034.0	3192.0	3135.4	3332.6	3456.8
32.5°	2915.4	3030.9	3052.1	3315.3	3335.8
35°	2803.0	2880.8	2924.0	3189.6	3298.0
37.5°	2679.6	2700.8	2815.6	3137.0	3241.5
40°	2553.9	2540.5	2724.4	3050.5	3195.1
42.5°	2418.7	2414.0	2627.7	3007.3	3079.6
45°	2290.6	2300.9	2490.2	2884.7	2992.4
47.5°	2159.4	2172.8	2359.8	2750.3	2883.9
50°	2007.0	2024.2	2243.5	2630.9	2803.0
52.5°	1841.9	1874.9	2130.3	2517.7	2691.4
55°	1687.1	1714.6	1986.5	2421.1	2613.6
57.5°	1545.7	1562.2	1838.0	2299.3	2444.7
60°	1406.6	1410.5	1698.1	2164.1	2303.2
62.5°	1247.1	1254.2	1554.3	2004.6	2190.8
65°	1067.9	1101.7	1399.5	1852.2	2020.3
67.5°	900.5	959.5	1241.6	1712.3	1800.3
70°	721.4	821.2	1086.8	1548.0	1610.1
72.5°	557.1	674.2	928.0	1364.2	1451.4
75°	403.9	535.1	780.3	1199.1	1274.6
77.5°	271.9	405.5	642.0	1016.8	1116.6
80°	162.7	296.3	518.6	847.9	960.3
82.5°	83.3	198.8	402.3	711.2	811.7
85°	36.1	125.7	304.1	590.1	677.4
87.5°	10.2	71.5	224.0	477.0	550.9
90°	0.8	37.7	159.5	374.0	440.8
92.5°	0.8	18.1	112.4	282.9	334.0
95°	0.8	9.4	69.9	205.1	250.7
97.5°	0.8	5.5	42.4	145.4	183.9
100°	0.8	4.7	25.1	96.7	131.2
102.5°	0.8	5.5	17.3	61.3	85.7
105°	0.8	5.5	14.1	40.1	56.6
107.5°	1.6	5.5	12.6	29.9	39.3
110°	0.8	4.7	13.4	22.8	30.6

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	1.6	3.9	12.6	18.9	22.8
115°	0.8	3.1	11.0	18.1	18.9
117.5°	1.6	2.4	8.6	18.1	18.9
120°	1.6	1.6	7.1	17.3	19.6
122.5°	1.6	1.6	5.5	15.7	18.9
125°	0.8	1.6	4.7	11.8	16.5
127.5°	1.6	1.6	3.9	9.4	12.6
130°	1.6	1.6	3.1	7.1	9.4
132.5°	1.6	1.6	2.4	5.5	7.1
135°	1.6	1.6	1.6	3.9	5.5
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)