

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: P517650

Luminaire Tested: HVL12-8-LD4-2LO-35-UNV-O-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: P517650
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL12-8-LD4-2LO-35-UNV-O-EDD
Description: 8 FOOT, 12 INCH WIDE, HVL LED LUMINAIRE, WITH 3500K, 80 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8572.0 lumens
Efficiency: N/A
Efficacy: 90.5 lumens/watt
Spacing Criteria (0/90/45): 1.25 / 1.27 / 1.38
Luminous Opening: Rectangular w/ Sides (W: 1' x L: 8' x H: 0.17')
CIE Type: Direct

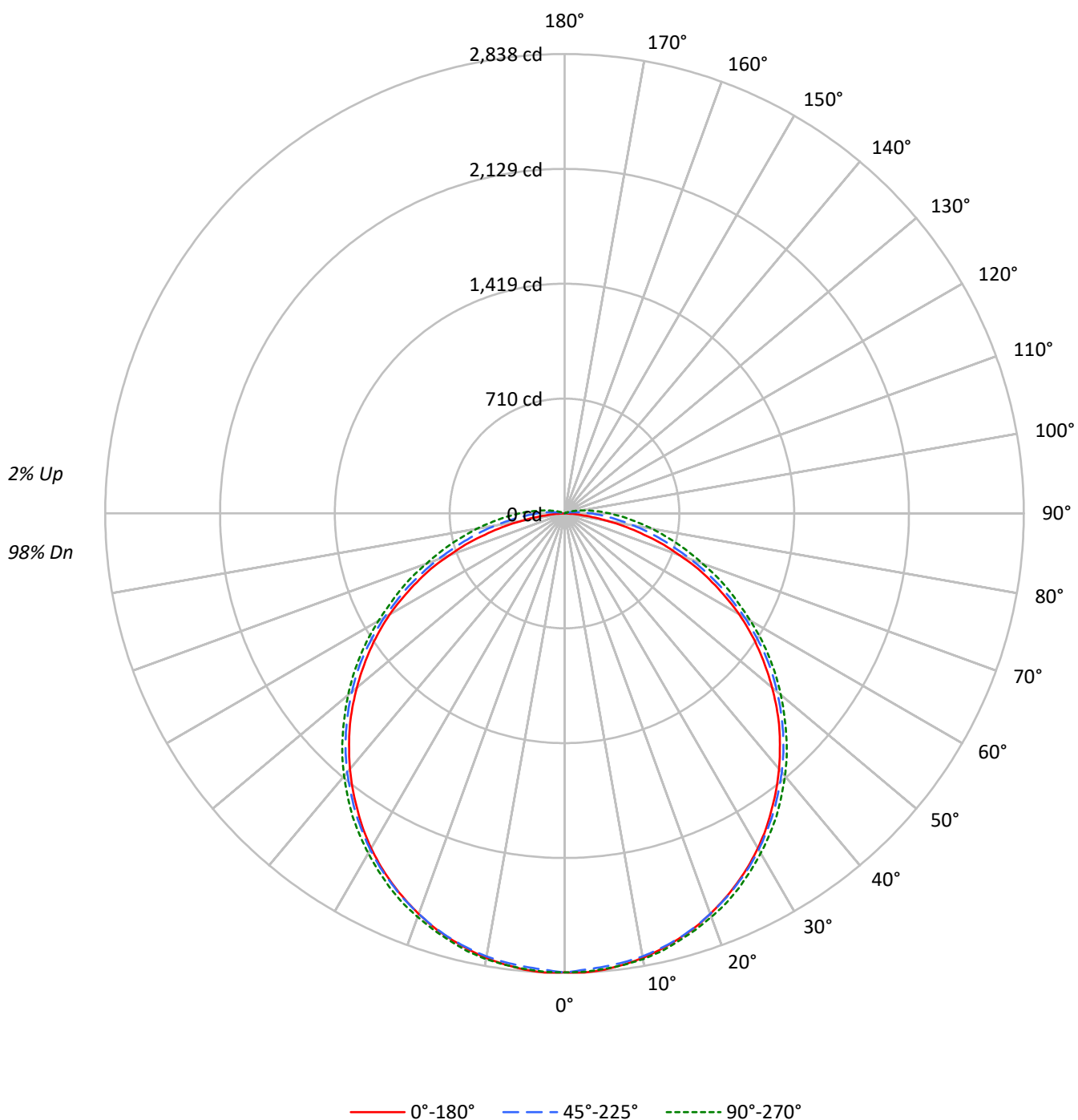
Input Watts (W): 94.7
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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
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°	3815	3815	3815
5°	3814	3753	3760
10°	3796	3709	3711
15°	3770	3657	3645
20°	3742	3596	3581
25°	3708	3532	3515
30°	3667	3463	3436
35°	3614	3384	3359
40°	3559	3301	3265
45°	3501	3209	3161
50°	3422	3100	3048
55°	3339	2979	2923
60°	3239	2814	2772
65°	3069	2628	2626
70°	2820	2403	2452
75°	2459	2157	2309
80°	1908	1927	2201
85°	1100	1718	2141

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 3501 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	268.3	3.1
10°-20°	769.6	9.0
20°-30°	1167.7	13.6
30°-40°	1411.9	16.5
40°-50°	1473.3	17.2
50°-60°	1347.0	15.7
60°-70°	1050.1	12.2
70°-80°	656.9	7.7
80°-90°	298.3	3.5
90°-100°	100.0	1.2
100°-110°	25.1	0.3
110°-120°	4.0	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°	2205.5	25.7
0°-40°	3617.5	42.2
0°-60°	6437.7	75.1
0°-90°	8443.0	98.5
90°-120°	129.1	1.5
90°-150°	129.1	1.5
90°-180°	129.0	1.5
0°-180°	8572.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2835	2835	2835	2835	2835	
5°	2829	2824	2811	2824	2824	269
15°	2722	2726	2719	2734	2734	768
25°	2522	2524	2526	2548	2552	1162
35°	2232	2242	2252	2274	2284	1397
45°	1878	1895	1910	1929	1938	1447
55°	1466	1483	1510	1532	1542	1309
65°	1007	1025	1060	1102	1120	997
75°	510	541	620	694	720	544
85°	88	163	280	370	403	112
90°	1	61	165	248	278	3
95°	1	16	86	155	179	1
105°	1	2	14	41	56	1
115°	2	2	3	7	11	1
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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CATALOG NUMBER: HVL12-8-LD4-2LO-35-UNV-O-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2835.1	2835.1	2835.1	2835.1	2835.1
2.5°	2838.4	2834.4	2821.7	2834.4	2833.8
5°	2829.1	2823.7	2811.0	2824.4	2824.4
7.5°	2810.4	2808.4	2797.0	2812.4	2812.4
10°	2788.3	2787.6	2778.3	2795.0	2795.7
12.5°	2757.6	2760.2	2751.6	2767.6	2769.6
15°	2721.5	2726.2	2718.8	2734.2	2733.5
17.5°	2682.0	2684.7	2679.4	2696.8	2696.1
20°	2633.3	2636.6	2632.6	2650.6	2652.6
22.5°	2579.1	2583.8	2583.1	2601.8	2607.2
25°	2521.6	2523.7	2526.3	2547.7	2551.7
27.5°	2458.2	2461.5	2466.2	2485.6	2489.6
30°	2388.6	2394.0	2399.3	2419.4	2424.7
32.5°	2315.1	2320.5	2327.2	2353.2	2355.9
35°	2232.3	2242.3	2251.6	2274.4	2283.7
37.5°	2149.4	2162.1	2170.8	2194.8	2202.2
40°	2061.8	2074.5	2088.6	2114.0	2118.6
42.5°	1970.3	1985.0	2001.7	2024.4	2032.4
45°	1878.0	1894.7	1910.1	1928.8	1938.2
47.5°	1778.5	1795.2	1813.9	1835.3	1841.3
50°	1675.5	1694.9	1715.0	1735.0	1745.7
52.5°	1569.9	1593.3	1616.0	1637.4	1647.5
55°	1465.7	1483.0	1510.4	1532.5	1542.5
57.5°	1357.4	1372.1	1396.8	1432.9	1438.3
60°	1247.1	1260.5	1285.9	1315.3	1327.3
62.5°	1125.5	1143.5	1170.3	1207.7	1218.4
65°	1007.2	1024.6	1060.0	1102.1	1119.5
67.5°	892.9	898.9	944.4	988.5	1016.5
70°	757.9	780.6	833.4	887.6	908.9
72.5°	641.6	664.3	722.5	786.0	812.7
75°	509.9	541.4	620.2	694.4	720.5
77.5°	394.3	429.1	526.7	601.5	631.6
80°	275.4	329.5	435.8	520.0	552.7
82.5°	173.1	239.9	353.6	441.8	470.5
85°	88.2	163.1	280.0	370.3	403.0
87.5°	23.4	105.6	217.9	304.1	337.5
90°	0.7	60.8	165.1	248.0	278.0
92.5°	0.7	34.1	123.0	197.2	227.9
95°	0.7	16.0	85.5	155.1	179.1
97.5°	0.7	6.7	58.8	117.0	141.0
100°	0.7	3.3	37.4	84.9	105.6
102.5°	1.3	2.0	23.4	60.8	77.5
105°	1.3	2.0	14.0	41.4	55.5
107.5°	1.3	2.0	8.0	28.1	38.1
110°	2.0	2.0	4.7	17.4	25.4

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	2.0	2.0	2.7	11.4	16.7
115°	2.0	2.0	2.7	7.4	10.7
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)