

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: P517653

Luminaire Tested: HVL12-8-LD4-2LO-40-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: P517653
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL12-8-LD4-2LO-40-UNV-O-EDD-90
Description: 8 FOOT, 12 INCH WIDE, HVL LED LUMINAIRE, WITH 4000K, 90 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 10347.0 lumens
Efficiency: N/A
Efficacy: 109.3 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

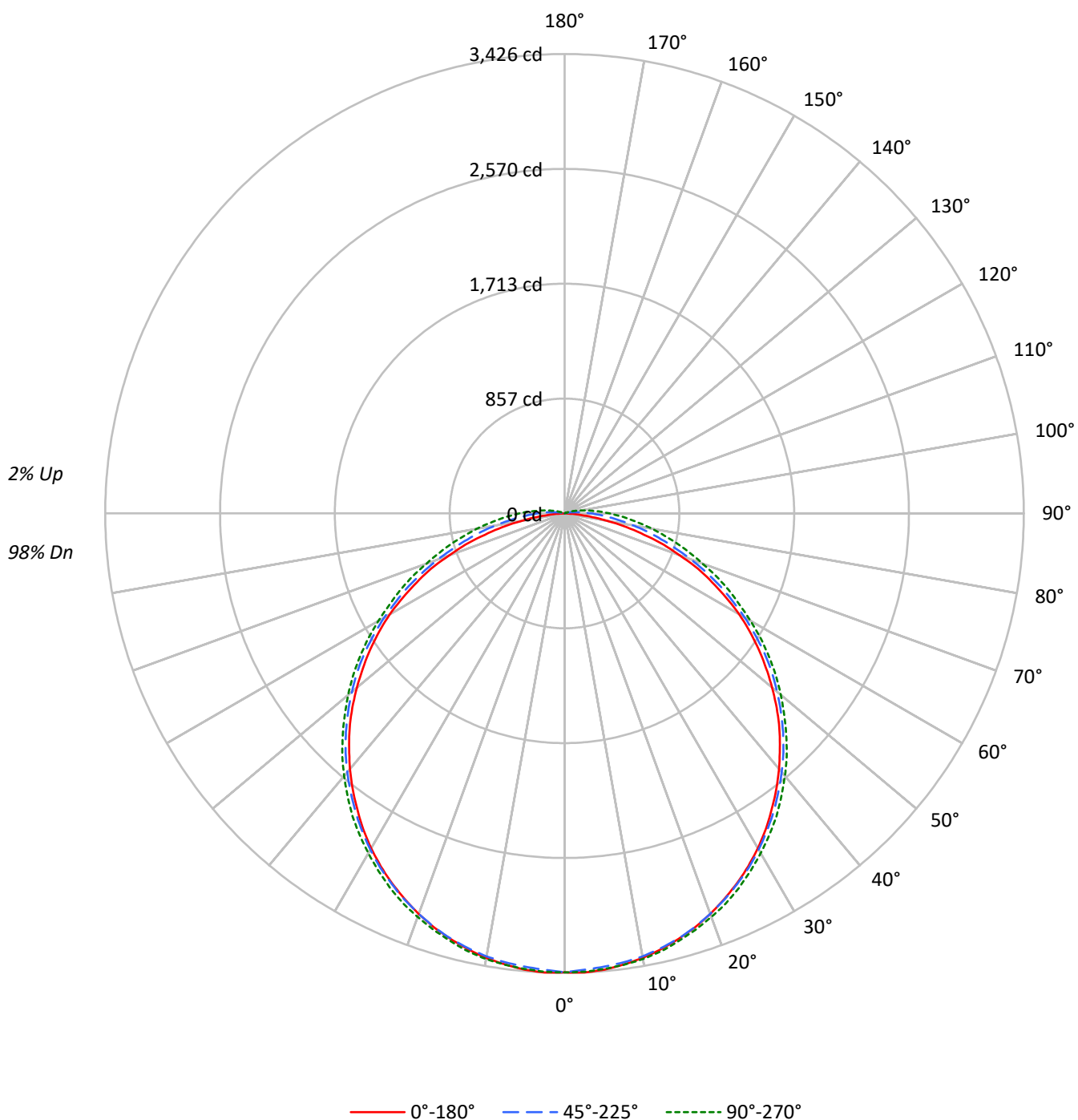
Input Watts (W): 94.7
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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

TEST NUMBER: P517653

CATALOG NUMBER: HVL12-8-LD4-2LO-40-UNV-O-EDD-90

Luminous Intensity Polar Plot



TEST NUMBER: P517653

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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°	4605	4605	4605
5°	4604	4530	4539
10°	4582	4477	4479
15°	4550	4415	4400
20°	4517	4340	4322
25°	4475	4264	4243
30°	4426	4180	4148
35°	4362	4085	4055
40°	4296	3985	3940
45°	4225	3873	3816
50°	4131	3742	3680
55°	4030	3596	3528
60°	3910	3397	3346
65°	3705	3172	3169
70°	3404	2901	2960
75°	2969	2603	2787
80°	2303	2326	2657
85°	1328	2074	2585

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 4225 cd/sqm

TEST NUMBER: P517653

CATALOG NUMBER: HVL12-8-LD4-2LO-40-UNV-O-EDD-90

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	323.8	3.1
10°-20°	928.9	9.0
20°-30°	1409.5	13.6
30°-40°	1704.3	16.5
40°-50°	1778.3	17.2
50°-60°	1625.9	15.7
60°-70°	1267.5	12.2
70°-80°	792.9	7.7
80°-90°	360.1	3.5
90°-100°	120.7	1.2
100°-110°	30.3	0.3
110°-120°	4.8	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°	2662.2	25.7
0°-40°	4366.6	42.2
0°-60°	7770.8	75.1
0°-90°	10191.2	98.5
90°-120°	155.8	1.5
90°-150°	155.8	1.5
90°-180°	156.0	1.5
0°-180°	10347.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3422	3422	3422	3422	3422	
5°	3415	3408	3393	3409	3409	324
15°	3285	3291	3282	3300	3300	927
25°	3044	3046	3050	3075	3080	1403
35°	2694	2707	2718	2745	2757	1687
45°	2267	2287	2306	2328	2340	1747
55°	1769	1790	1823	1850	1862	1581
65°	1216	1237	1280	1330	1351	1203
75°	616	654	749	838	870	656
85°	106	197	338	447	486	135
90°	1	73	199	299	336	4
95°	1	19	103	187	216	1
105°	2	2	17	50	67	2
115°	2	2	3	9	13	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

TEST NUMBER: P517653

CATALOG NUMBER: HVL12-8-LD4-2LO-40-UNV-O-EDD-90

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3422.2	3422.2	3422.2	3422.2	3422.2
2.5°	3426.2	3421.4	3406.0	3421.4	3420.5
5°	3414.9	3408.4	3393.1	3409.3	3409.3
7.5°	3392.3	3389.9	3376.2	3394.7	3394.7
10°	3365.7	3364.9	3353.6	3373.8	3374.6
12.5°	3328.6	3331.8	3321.3	3340.7	3343.1
15°	3285.0	3290.7	3281.8	3300.3	3299.5
17.5°	3237.4	3240.6	3234.2	3255.2	3254.4
20°	3178.5	3182.6	3177.7	3199.5	3201.9
22.5°	3113.2	3118.8	3118.0	3140.6	3147.1
25°	3043.8	3046.2	3049.5	3075.3	3080.1
27.5°	2967.2	2971.2	2976.8	3000.2	3005.1
30°	2883.3	2889.7	2896.2	2920.4	2926.8
32.5°	2794.5	2801.0	2809.0	2840.5	2843.7
35°	2694.5	2706.6	2717.9	2745.3	2756.6
37.5°	2594.5	2609.8	2620.3	2649.3	2658.2
40°	2488.8	2504.1	2521.0	2551.7	2557.3
42.5°	2378.2	2396.0	2416.2	2443.6	2453.3
45°	2266.9	2287.1	2305.6	2328.2	2339.5
47.5°	2146.7	2166.9	2189.5	2215.3	2222.6
50°	2022.5	2045.9	2070.1	2094.3	2107.2
52.5°	1895.0	1923.3	1950.7	1976.5	1988.6
55°	1769.2	1790.1	1823.2	1849.8	1861.9
57.5°	1638.5	1656.2	1686.1	1729.6	1736.1
60°	1505.4	1521.5	1552.2	1587.7	1602.2
62.5°	1358.5	1380.3	1412.6	1457.8	1470.7
65°	1215.7	1236.7	1279.5	1330.3	1351.3
67.5°	1077.8	1085.1	1139.9	1193.2	1227.0
70°	914.8	942.3	1006.0	1071.3	1097.2
72.5°	774.5	801.9	872.1	948.7	981.0
75°	615.5	653.5	748.6	838.2	869.7
77.5°	476.0	517.9	635.7	726.1	762.4
80°	332.4	397.7	526.0	627.6	667.2
82.5°	208.9	289.6	426.8	533.3	567.9
85°	106.5	196.8	338.0	446.9	486.5
87.5°	28.2	127.5	263.0	367.1	407.4
90°	0.8	73.4	199.3	299.3	335.6
92.5°	0.8	41.1	148.4	238.0	275.1
95°	0.8	19.4	103.3	187.2	216.2
97.5°	0.8	8.1	71.0	141.2	170.2
100°	0.8	4.0	45.2	102.5	127.5
102.5°	1.6	2.4	28.2	73.4	93.6
105°	1.6	2.4	16.9	50.0	67.0
107.5°	1.6	2.4	9.7	33.9	46.0
110°	2.4	2.4	5.6	21.0	30.7

TEST NUMBER: P517653

CATALOG NUMBER: HVL12-8-LD4-2LO-40-UNV-O-EDD-90

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	2.4	2.4	3.2	13.7	20.2
115°	2.4	2.4	3.2	8.9	12.9
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)