

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: P517662

Luminaire Tested: HVL12-8-LD4-2STD-30-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: P517662
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL12-8-LD4-2STD-30-UNV-O-EDD
Description: 8 FOOT, 12 INCH WIDE, HVL LED LUMINAIRE, WITH 3000K, 80 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 10897.0 lumens
Efficiency: N/A
Efficacy: 81.1 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

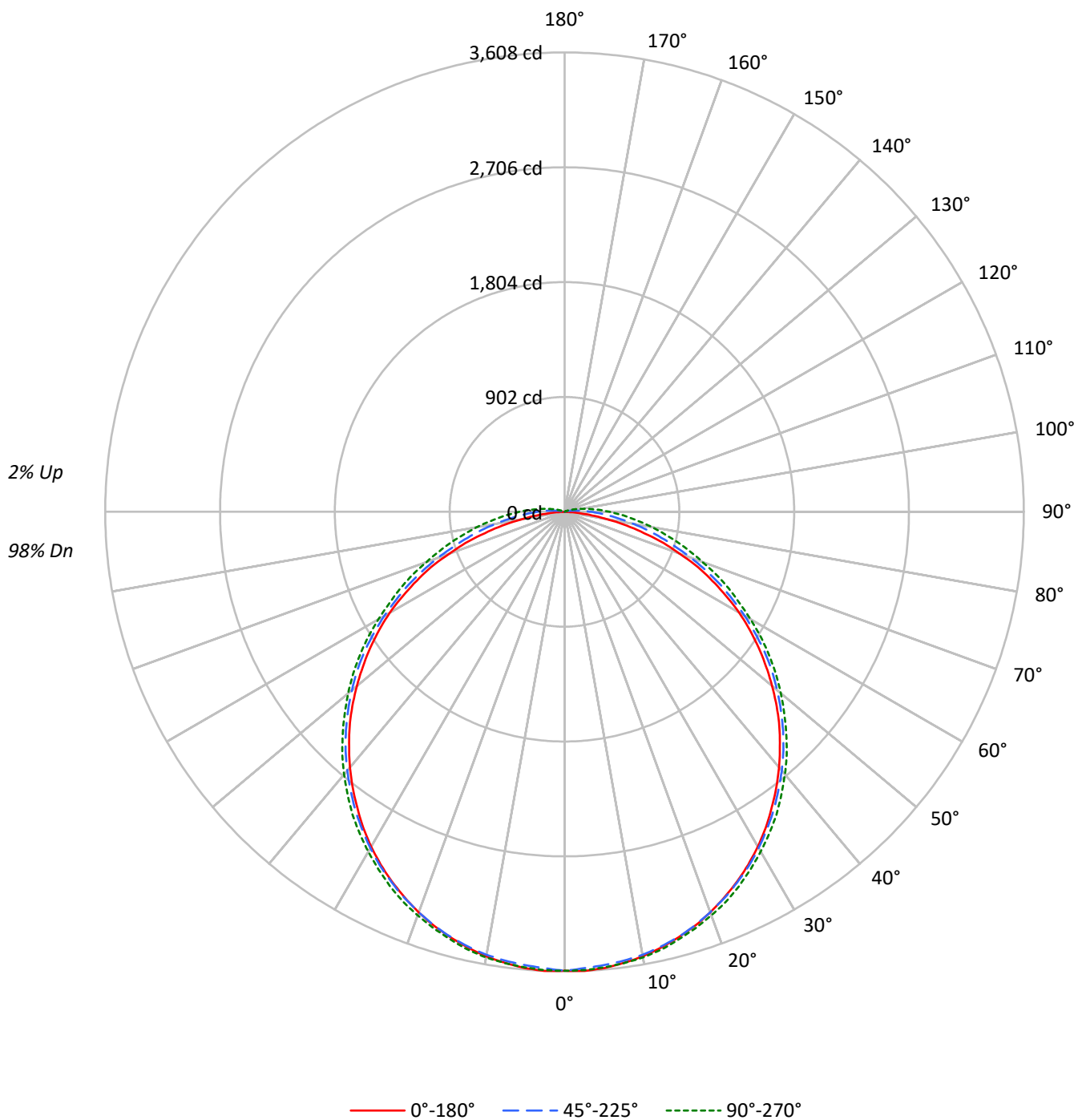
Input Watts (W): 134.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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				0
RW	70	50	30	10	70	50	30	10	50	30	10		50	30	10		0
RCR																	
0	119	119	119	119	116	116	116	116	110	110	110		105	105	105		98
1	108	102	98	94	105	100	96	92	95	92	89		91	88	86		81
2	98	89	82	76	95	87	80	75	83	77	73		79	75	71		67
3	89	78	69	63	86	76	68	62	73	66	61		70	64	59		56
4	81	69	60	53	79	67	59	52	65	57	52		62	56	51		47
5	75	61	52	45	72	60	52	45	58	50	44		56	49	44		41
6	69	55	46	40	67	54	46	39	52	45	39		50	44	38		36
7	64	50	41	35	62	49	41	35	47	40	34		46	39	34		32
8	59	46	37	31	58	45	37	31	43	36	31		42	35	30		28
9	55	42	34	28	54	41	33	28	40	33	28		39	32	27		25
10	52	39	31	25	51	38	30	25	37	30	25		36	29	25		23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4849	4849	4849
5°	4849	4771	4780
10°	4825	4715	4717
15°	4792	4649	4633
20°	4757	4571	4552
25°	4713	4490	4468
30°	4662	4402	4368
35°	4594	4302	4270
40°	4525	4196	4150
45°	4450	4079	4018
50°	4351	3941	3875
55°	4244	3787	3715
60°	4118	3577	3523
65°	3902	3340	3338
70°	3585	3055	3118
75°	3127	2742	2935
80°	2425	2450	2798
85°	1398	2185	2722

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 4450 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	341.1	3.1
10°-20°	978.3	9.0
20°-30°	1484.4	13.6
30°-40°	1794.9	16.5
40°-50°	1872.8	17.2
50°-60°	1712.3	15.7
60°-70°	1334.9	12.2
70°-80°	835.0	7.7
80°-90°	379.3	3.5
90°-100°	127.1	1.2
100°-110°	31.9	0.3
110°-120°	5.0	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°	2803.8	25.7
0°-40°	4598.7	42.2
0°-60°	8183.8	75.1
0°-90°	10733.0	98.5
90°-120°	164.0	1.5
90°-150°	164.0	1.5
90°-180°	164.0	1.5
0°-180°	10897.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3604	3604	3604	3604	3604	
5°	3596	3590	3574	3590	3590	342
15°	3460	3466	3456	3476	3475	977
25°	3206	3208	3212	3239	3244	1477
35°	2838	2850	2862	2891	2903	1776
45°	2387	2409	2428	2452	2464	1840
55°	1863	1885	1920	1948	1961	1665
65°	1280	1302	1348	1401	1423	1267
75°	648	688	788	883	916	691
85°	112	207	356	471	512	142
90°	1	77	210	315	353	4
95°	1	20	109	197	228	1
105°	2	2	18	53	70	2
115°	2	2	3	9	14	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

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3604.1	3604.1	3604.1	3604.1	3604.1
2.5°	3608.3	3603.2	3587.1	3603.2	3602.4
5°	3596.4	3589.6	3573.5	3590.5	3590.5
7.5°	3572.6	3570.1	3555.6	3575.2	3575.2
10°	3544.6	3543.7	3531.9	3553.1	3553.9
12.5°	3505.5	3508.9	3497.9	3518.3	3520.8
15°	3459.6	3465.6	3456.2	3475.8	3474.9
17.5°	3409.5	3412.9	3406.1	3428.2	3427.3
20°	3347.5	3351.7	3346.6	3369.6	3372.1
22.5°	3278.7	3284.6	3283.8	3307.6	3314.4
25°	3205.6	3208.1	3211.5	3238.7	3243.8
27.5°	3124.9	3129.1	3135.1	3159.7	3164.8
30°	3036.5	3043.3	3050.1	3075.6	3082.4
32.5°	2943.1	2949.9	2958.4	2991.5	2994.9
35°	2837.7	2850.5	2862.4	2891.2	2903.1
37.5°	2732.4	2748.5	2759.6	2790.1	2799.5
40°	2621.1	2637.2	2655.0	2687.3	2693.3
42.5°	2504.7	2523.4	2544.6	2573.5	2583.7
45°	2387.4	2408.7	2428.2	2452.0	2463.9
47.5°	2260.8	2282.1	2305.9	2333.0	2340.7
50°	2130.0	2154.6	2180.1	2205.6	2219.2
52.5°	1995.7	2025.5	2054.4	2081.6	2094.3
55°	1863.2	1885.3	1920.1	1948.2	1960.9
57.5°	1725.6	1744.3	1775.7	1821.6	1828.4
60°	1585.4	1602.4	1634.7	1672.0	1687.3
62.5°	1430.8	1453.7	1487.7	1535.3	1548.8
65°	1280.4	1302.5	1347.5	1401.0	1423.1
67.5°	1135.1	1142.7	1200.5	1256.6	1292.3
70°	963.5	992.4	1059.5	1128.3	1155.5
72.5°	815.6	844.5	918.4	999.1	1033.1
75°	648.3	688.2	788.4	882.8	915.9
77.5°	501.3	545.5	669.5	764.7	802.9
80°	350.0	418.9	553.9	661.0	702.6
82.5°	220.1	305.0	449.4	561.6	598.1
85°	112.1	207.3	356.0	470.7	512.3
87.5°	29.7	134.2	277.0	386.6	429.1
90°	0.8	77.3	209.9	315.2	353.4
92.5°	0.8	43.3	156.3	250.6	289.7
95°	0.8	20.4	108.8	197.1	227.7
97.5°	0.8	8.5	74.8	148.7	179.3
100°	0.8	4.2	47.6	107.9	134.2
102.5°	1.7	2.5	29.7	77.3	98.6
105°	1.7	2.5	17.8	52.7	70.5
107.5°	1.7	2.5	10.2	35.7	48.4
110°	2.5	2.5	5.9	22.1	32.3

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	2.5	2.5	3.4	14.4	21.2
115°	2.5	2.5	3.4	9.3	13.6
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)