

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: P517705

Luminaire Tested: HVL12-8-LD4-3LO-50-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: P517705
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-O-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: 14437.0 lumens
Efficiency: N/A
Efficacy: 104.3 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

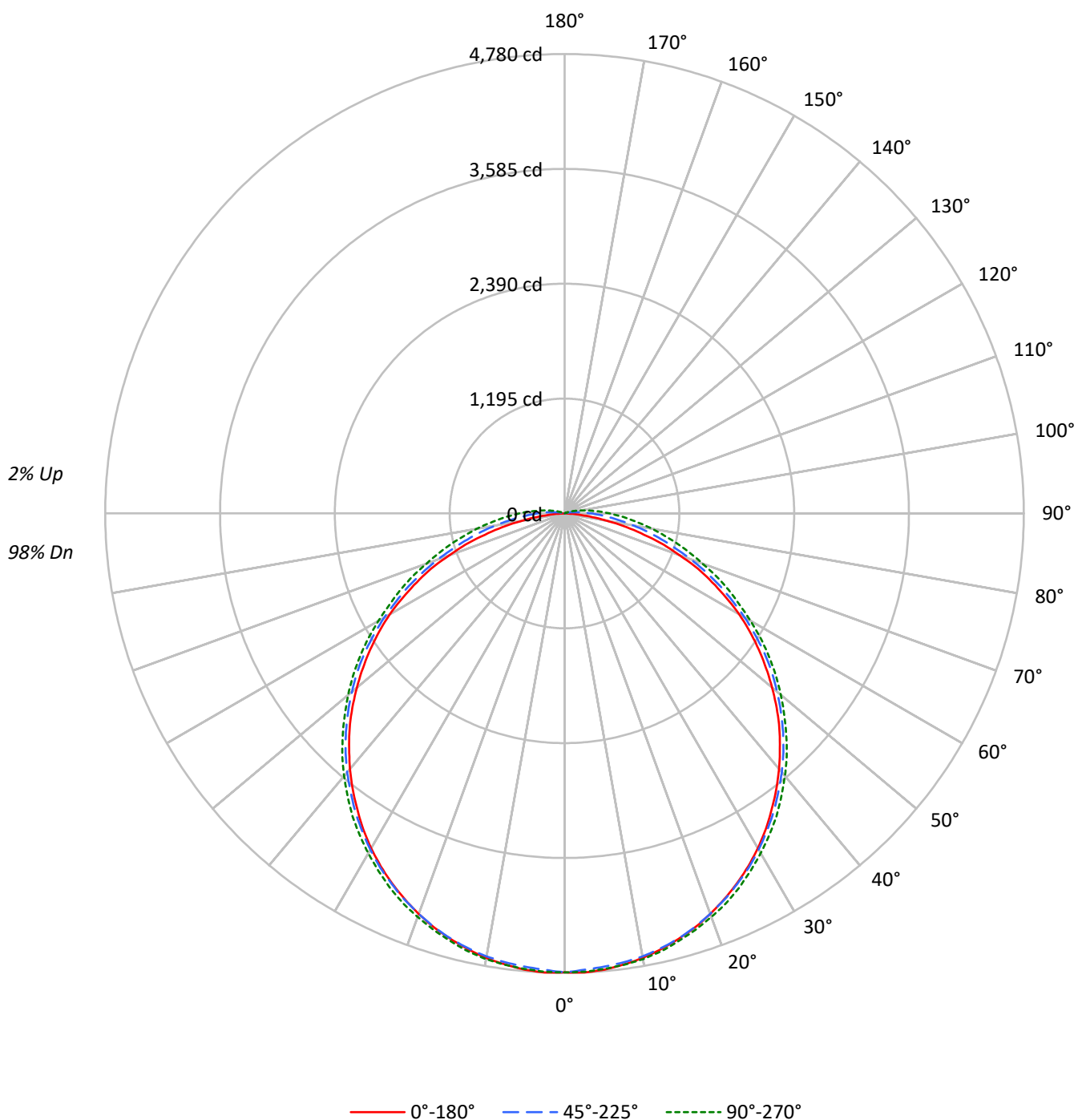
Input Watts (W): 138.4
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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			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°	6425	6425	6425
5°	6424	6321	6332
10°	6393	6247	6249
15°	6349	6159	6139
20°	6302	6056	6031
25°	6244	5949	5920
30°	6176	5832	5788
35°	6086	5700	5657
40°	5994	5560	5498
45°	5896	5405	5324
50°	5764	5221	5134
55°	5623	5017	4922
60°	5455	4739	4668
65°	5170	4425	4422
70°	4750	4047	4130
75°	4142	3633	3889
80°	3214	3246	3708
85°	1853	2894	3606

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 5896 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	451.9	3.1
10°-20°	1296.1	9.0
20°-30°	1966.6	13.6
30°-40°	2378.0	16.5
40°-50°	2481.2	17.2
50°-60°	2268.6	15.7
60°-70°	1768.5	12.2
70°-80°	1106.3	7.7
80°-90°	502.5	3.5
90°-100°	168.4	1.2
100°-110°	42.3	0.3
110°-120°	6.7	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°	3714.6	25.7
0°-40°	6092.6	42.2
0°-60°	10842.4	75.1
0°-90°	14219.6	98.5
90°-120°	217.4	1.5
90°-150°	217.4	1.5
90°-180°	217.0	1.5
0°-180°	14437.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4775	4775	4775	4775	4775	
5°	4765	4756	4734	4757	4757	452
15°	4584	4591	4579	4605	4604	1294
25°	4247	4250	4255	4291	4298	1957
35°	3760	3776	3792	3830	3846	2353
45°	3163	3191	3217	3248	3264	2437
55°	2468	2498	2544	2581	2598	2205
65°	1696	1726	1785	1856	1885	1678
75°	859	912	1045	1170	1213	916
85°	149	275	472	624	679	188
90°	1	102	278	418	468	6
95°	1	27	144	261	302	1
105°	2	3	24	70	93	2
115°	3	3	4	12	18	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°	4774.9	4774.9	4774.9	4774.9	4774.9
2.5°	4780.5	4773.8	4752.4	4773.8	4772.6
5°	4764.8	4755.8	4734.4	4756.9	4756.9
7.5°	4733.2	4729.9	4710.7	4736.6	4736.6
10°	4696.1	4695.0	4679.2	4707.4	4708.5
12.5°	4644.3	4648.8	4634.2	4661.2	4664.6
15°	4583.5	4591.4	4579.0	4604.9	4603.8
17.5°	4517.1	4521.6	4512.6	4541.9	4540.8
20°	4434.9	4440.6	4433.8	4464.2	4467.6
22.5°	4343.8	4351.7	4350.5	4382.0	4391.1
25°	4247.0	4250.3	4254.9	4290.9	4297.6
27.5°	4140.0	4145.7	4153.5	4186.2	4192.9
30°	4023.0	4032.0	4041.0	4074.8	4083.8
32.5°	3899.2	3908.2	3919.4	3963.3	3967.8
35°	3759.6	3776.5	3792.2	3830.5	3846.2
37.5°	3620.0	3641.4	3656.0	3696.5	3708.9
40°	3472.5	3493.9	3517.6	3560.3	3568.2
42.5°	3318.3	3343.1	3371.2	3409.5	3423.0
45°	3163.0	3191.1	3217.0	3248.5	3264.3
47.5°	2995.3	3023.4	3054.9	3091.0	3101.1
50°	2821.9	2854.6	2888.3	2922.1	2940.1
52.5°	2644.1	2683.5	2721.8	2757.8	2774.7
55°	2468.5	2497.8	2543.9	2581.1	2597.9
57.5°	2286.1	2310.9	2352.5	2413.3	2422.3
60°	2100.4	2122.9	2165.7	2215.2	2235.5
62.5°	1895.5	1925.9	1971.0	2034.0	2052.0
65°	1696.3	1725.6	1785.2	1856.2	1885.4
67.5°	1503.8	1514.0	1590.5	1664.8	1712.1
70°	1276.5	1314.7	1403.7	1494.8	1530.8
72.5°	1080.6	1118.9	1216.8	1323.7	1368.8
75°	858.8	911.8	1044.6	1169.5	1213.4
77.5°	664.1	722.6	887.0	1013.1	1063.7
80°	463.8	554.9	733.9	875.7	930.9
82.5°	291.5	404.1	595.5	744.0	792.4
85°	148.6	274.7	471.6	623.6	678.7
87.5°	39.4	177.8	367.0	512.2	568.4
90°	1.1	102.4	278.0	417.6	468.3
92.5°	1.1	57.4	207.1	332.1	383.8
95°	1.1	27.0	144.1	261.1	301.7
97.5°	1.1	11.3	99.1	197.0	237.5
100°	1.1	5.6	63.0	143.0	177.8
102.5°	2.3	3.4	39.4	102.4	130.6
105°	2.3	3.4	23.6	69.8	93.4
107.5°	2.3	3.4	13.5	47.3	64.2
110°	3.4	3.4	7.9	29.3	42.8

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	3.4	3.4	4.5	19.1	28.1
115°	3.4	3.4	4.5	12.4	18.0
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)