

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: P517671

Luminaire Tested: HVL12-8-LD4-2STD-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: P517671
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL12-8-LD4-2STD-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: 14970.0 lumens
Efficiency: N/A
Efficacy: 111.5 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

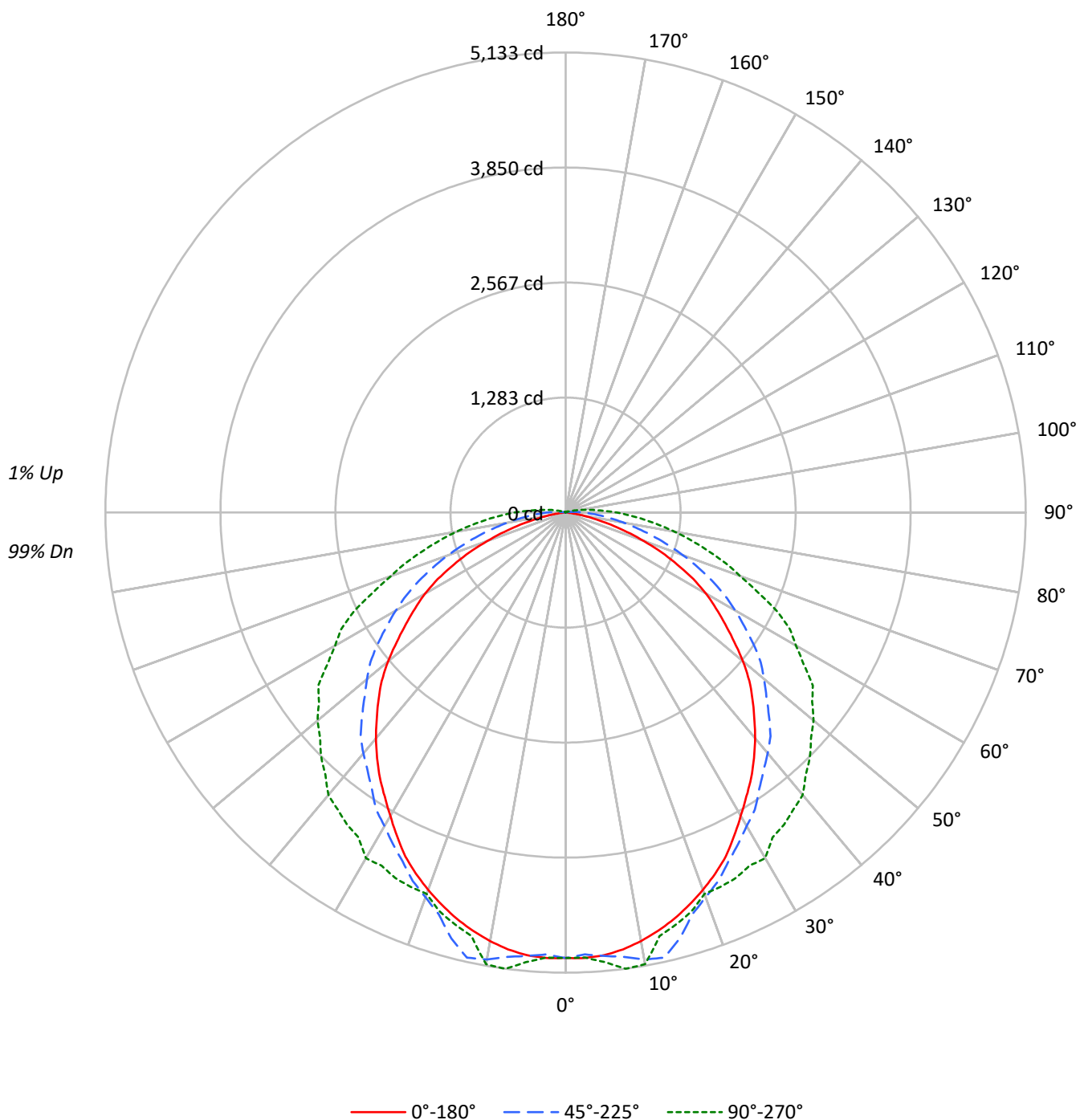
Input Watts (W): 134.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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	50	30	10
RCR																	
0	119	119	119	119	116	116	116	116	110	110	110	105	105	105	101	101	101
1	108	103	98	94	105	100	96	92	96	92	89	91	89	86	87	85	83
2	98	89	82	76	95	87	80	75	83	78	73	80	75	71	76	72	69
3	89	78	69	63	86	76	68	62	73	66	61	70	64	59	67	62	58
4	81	69	60	53	79	67	59	52	65	57	51	62	56	51	60	54	50
5	75	61	52	45	72	60	51	45	58	50	44	56	49	44	54	48	43
6	69	55	46	39	67	54	46	39	52	45	39	50	44	38	49	43	38
7	64	50	41	35	62	49	41	35	47	40	34	46	39	34	44	38	34
8	59	46	37	31	58	45	37	31	43	36	31	42	35	30	41	35	30
9	55	42	34	28	54	41	33	28	40	33	28	39	32	27	38	32	27
10	52	39	31	25	51	38	30	25	37	30	25	36	29	25	35	29	25

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	6686	6686	6686
5°	6683	6628	6701
10°	6607	6760	6790
15°	6499	6618	6347
20°	6365	6239	6112
25°	6223	6008	6195
30°	6000	5829	6311
35°	5846	5661	6249
40°	5679	5547	6342
45°	5500	5389	6287
50°	5280	5224	6305
55°	4951	5047	6379
60°	4706	4787	6195
65°	4192	4469	6104
70°	3458	4037	5596
75°	2510	3496	5262
80°	1452	2955	4927
85°	581	2404	4637

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 55°

Luminance: 6379 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	477.6	3.2
10°-20°	1360.1	9.1
20°-30°	2023.7	13.5
30°-40°	2432.4	16.2
40°-50°	2560.3	17.1
50°-60°	2375.7	15.9
60°-70°	1878.4	12.5
70°-80°	1147.4	7.7
80°-90°	499.9	3.3
90°-100°	155.6	1.0
100°-110°	35.0	0.2
110°-120°	14.1	0.1
120°-130°	7.9	0.1
130°-140°	2.1	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°	3861.3	25.8
0°-40°	6293.8	42.0
0°-60°	11229.7	75.0
0°-90°	14755.3	98.6
90°-120°	204.7	1.4
90°-150°	214.7	1.4
90°-180°	215.0	1.4
0°-180°	14970.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4969	4969	4969	4969	4969	
5°	4957	4947	4964	5020	5034	470
15°	4692	4872	4920	4757	4760	1322
25°	4232	4503	4297	4426	4498	1943
35°	3611	3711	3767	4109	4248	2257
45°	2951	2964	3208	3716	3855	2275
55°	2173	2209	2559	3119	3367	1953
65°	1376	1419	1803	2386	2602	1362
75°	520	689	1005	1545	1642	568
85°	47	162	392	760	873	72
90°	1	49	206	482	568	2
95°	1	12	90	264	323	1
105°	1	7	18	52	73	1
115°	1	4	14	23	24	2
125°	1	2	6	15	21	2
135°	2	2	2	5	7	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°	4969.2	4969.2	4969.2	4969.2	4969.2
2.5°	4975.3	4962.1	4934.8	4961.1	4968.2
5°	4957.1	4947.0	4964.2	5019.8	5034.0
7.5°	4915.6	4954.0	4999.6	5100.8	5133.2
10°	4853.8	4926.7	5063.4	5149.4	5116.0
12.5°	4778.9	4902.4	5085.6	4917.6	4839.7
15°	4691.9	4872.0	4919.6	4756.6	4759.7
17.5°	4589.6	4846.7	4700.0	4695.9	4666.6
20°	4479.3	4761.7	4567.4	4559.3	4527.9
22.5°	4360.9	4649.3	4449.9	4433.7	4518.8
25°	4232.3	4502.6	4297.1	4425.6	4497.5
27.5°	4071.3	4310.2	4169.5	4351.7	4441.8
30°	3908.4	4111.8	4039.0	4293.0	4453.0
32.5°	3755.5	3904.3	3931.7	4270.8	4297.1
35°	3610.8	3711.0	3766.7	4108.8	4248.5
37.5°	3451.8	3479.2	3627.0	4041.0	4175.6
40°	3289.9	3272.7	3509.5	3929.6	4115.9
42.5°	3115.8	3109.7	3385.0	3874.0	3967.1
45°	2950.8	2963.9	3207.9	3716.0	3854.7
47.5°	2781.7	2798.9	3039.8	3542.9	3715.0
50°	2585.3	2607.6	2890.0	3389.1	3610.8
52.5°	2372.8	2415.3	2744.3	3243.3	3467.0
55°	2173.3	2208.8	2559.0	3118.8	3366.8
57.5°	1991.1	2012.4	2367.7	2961.9	3149.2
60°	1812.0	1817.0	2187.5	2787.8	2967.0
62.5°	1606.5	1615.6	2002.3	2582.3	2822.2
65°	1375.7	1419.2	1802.9	2385.9	2602.5
67.5°	1160.1	1236.0	1599.4	2205.7	2319.1
70°	929.3	1057.8	1400.0	1994.2	2074.1
72.5°	717.7	868.5	1195.5	1757.3	1869.7
75°	520.3	689.4	1005.2	1544.7	1641.9
77.5°	350.2	522.3	827.0	1309.9	1438.4
80°	209.5	381.6	668.1	1092.2	1237.0
82.5°	107.3	256.1	518.3	916.1	1045.7
85°	46.6	162.0	391.7	760.2	872.6
87.5°	13.2	92.1	288.5	614.4	709.6
90°	1.0	48.6	205.5	481.8	567.9
92.5°	1.0	23.3	144.8	364.4	430.2
95°	1.0	12.1	90.1	264.2	322.9
97.5°	1.0	7.1	54.7	187.3	236.9
100°	1.0	6.1	32.4	124.5	169.0
102.5°	1.0	7.1	22.3	79.0	110.3
105°	1.0	7.1	18.2	51.6	72.9
107.5°	2.0	7.1	16.2	38.5	50.6
110°	1.0	6.1	17.2	29.4	39.5

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	2.0	5.1	16.2	24.3	29.4
115°	1.0	4.0	14.2	23.3	24.3
117.5°	2.0	3.0	11.1	23.3	24.3
120°	2.0	2.0	9.1	22.3	25.3
122.5°	2.0	2.0	7.1	20.2	24.3
125°	1.0	2.0	6.1	15.2	21.3
127.5°	2.0	2.0	5.1	12.1	16.2
130°	2.0	2.0	4.0	9.1	12.1
132.5°	2.0	2.0	3.0	7.1	9.1
135°	2.0	2.0	2.0	5.1	7.1
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)