

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: P517677

Luminaire Tested: HVL12-8-LD4-3HI-30-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: P517677
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL12-8-LD4-3HI-30-UNV-O-EDD-90
Description: 8 FOOT, 12 INCH WIDE, HVL LED LUMINAIRE, WITH 3000K, 90 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 22114.0 lumens
Efficiency: N/A
Efficacy: 85.5 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

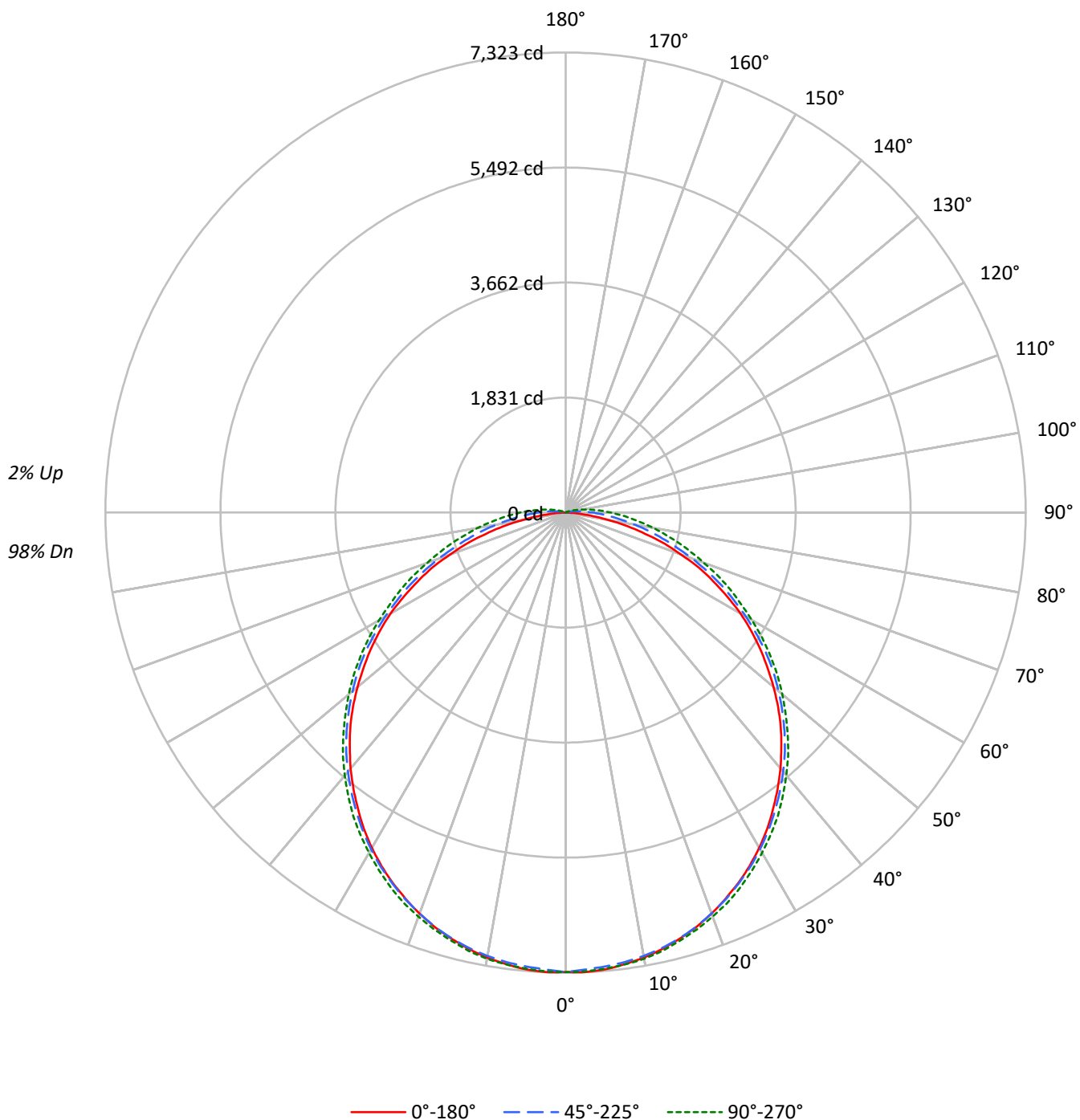
Input Watts (W): 258.6
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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°	9841	9841	9841
5°	9840	9682	9700
10°	9792	9569	9572
15°	9725	9435	9403
20°	9654	9277	9238
25°	9565	9112	9068
30°	9460	8933	8865
35°	9323	8731	8666
40°	9182	8516	8422
45°	9031	8279	8155
50°	8829	7997	7865
55°	8613	7685	7540
60°	8356	7259	7150
65°	7918	6778	6773
70°	7275	6200	6327
75°	6346	5564	5957
80°	4923	4972	5679
85°	2838	4433	5524

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 9031 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	692.1	3.1
10°-20°	1985.3	9.0
20°-30°	3012.4	13.6
30°-40°	3642.5	16.5
40°-50°	3800.7	17.2
50°-60°	3474.9	15.7
60°-70°	2708.9	12.2
70°-80°	1694.5	7.7
80°-90°	769.7	3.5
90°-100°	257.9	1.2
100°-110°	64.8	0.3
110°-120°	10.2	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°	5689.9	25.7
0°-40°	9332.4	42.2
0°-60°	16608.0	75.1
0°-90°	21781.1	98.5
90°-120°	332.9	1.5
90°-150°	332.9	1.5
90°-180°	333.0	1.5
0°-180°	22114.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	7314	7314	7314	7314	7314	
5°	7298	7285	7252	7286	7286	693
15°	7021	7033	7014	7054	7052	1982
25°	6505	6510	6517	6573	6583	2998
35°	5759	5785	5809	5867	5892	3604
45°	4845	4888	4928	4976	5000	3733
55°	3781	3826	3897	3954	3979	3378
65°	2598	2643	2735	2843	2888	2571
75°	1316	1397	1600	1791	1859	1402
85°	228	421	722	955	1040	288
90°	2	157	426	640	717	9
95°	2	41	221	400	462	1
105°	3	5	36	107	143	4
115°	5	5	7	19	28	3
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°	7314.0	7314.0	7314.0	7314.0	7314.0
2.5°	7322.6	7312.3	7279.5	7312.3	7310.5
5°	7298.5	7284.7	7251.9	7286.4	7286.4
7.5°	7250.2	7245.0	7215.7	7255.4	7255.4
10°	7193.3	7191.6	7167.4	7210.5	7212.2
12.5°	7114.0	7120.9	7098.5	7139.8	7145.0
15°	7020.9	7032.9	7014.0	7053.6	7051.9
17.5°	6919.1	6926.0	6912.2	6957.1	6955.3
20°	6793.3	6801.9	6791.5	6838.1	6843.3
22.5°	6653.6	6665.7	6664.0	6712.2	6726.0
25°	6505.3	6510.5	6517.4	6572.6	6582.9
27.5°	6341.5	6350.2	6362.2	6412.2	6422.6
30°	6162.2	6176.0	6189.8	6241.5	6255.3
32.5°	5972.6	5986.4	6003.6	6070.8	6077.7
35°	5758.8	5784.6	5808.8	5867.4	5891.5
37.5°	5545.0	5577.7	5600.1	5662.2	5681.2
40°	5319.1	5351.9	5388.1	5453.6	5465.7
42.5°	5082.9	5120.8	5163.9	5222.5	5243.2
45°	4844.9	4888.1	4927.7	4976.0	5000.1
47.5°	4588.0	4631.1	4679.4	4734.6	4750.1
50°	4322.5	4372.5	4424.2	4476.0	4503.6
52.5°	4050.1	4110.4	4169.1	4224.2	4250.1
55°	3781.1	3826.0	3896.6	3953.5	3979.4
57.5°	3501.8	3539.7	3603.5	3696.6	3710.4
60°	3217.3	3251.8	3317.3	3393.2	3424.2
62.5°	2903.5	2950.1	3019.0	3115.6	3143.2
65°	2598.3	2643.2	2734.6	2843.2	2888.0
67.5°	2303.5	2319.0	2436.3	2550.1	2622.5
70°	1955.2	2013.8	2150.1	2289.7	2344.9
72.5°	1655.2	1713.8	1863.8	2027.6	2096.6
75°	1315.6	1396.6	1600.0	1791.4	1858.7
77.5°	1017.3	1106.9	1358.7	1551.8	1629.4
80°	710.4	850.0	1124.2	1341.4	1425.9
82.5°	446.6	619.0	912.1	1139.7	1213.8
85°	227.6	420.7	722.4	955.2	1039.7
87.5°	60.3	272.4	562.1	784.5	870.7
90°	1.7	156.9	425.9	639.7	717.3
92.5°	1.7	87.9	317.2	508.6	587.9
95°	1.7	41.4	220.7	400.0	462.1
97.5°	1.7	17.2	151.7	301.7	363.8
100°	1.7	8.6	96.6	219.0	272.4
102.5°	3.4	5.2	60.3	156.9	200.0
105°	3.4	5.2	36.2	106.9	143.1
107.5°	3.4	5.2	20.7	72.4	98.3
110°	5.2	5.2	12.1	44.8	65.5

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	5.2	5.2	6.9	29.3	43.1
115°	5.2	5.2	6.9	19.0	27.6
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)