

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: P517709

Luminaire Tested: HVL12-8-LD4-3STD-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: P517709
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL12-8-LD4-3STD-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: 17185.0 lumens
Efficiency: N/A
Efficacy: 87.6 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

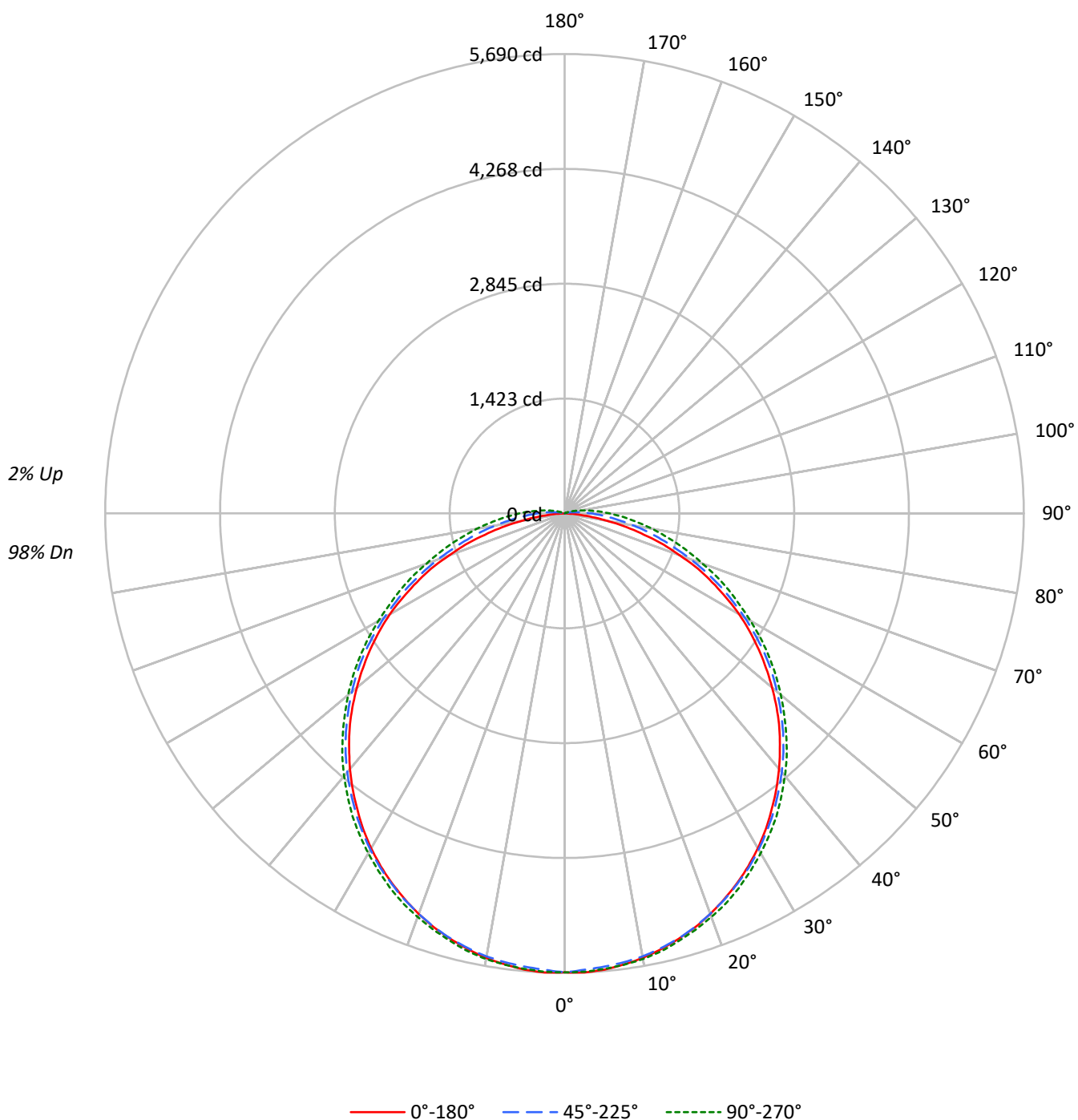
Input Watts (W): 196.2
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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: P517709

CATALOG NUMBER: HVL12-8-LD4-3STD-30-UNV-O-EDD-90

Luminous Intensity Polar Plot



TEST NUMBER: P517709

CATALOG NUMBER: HVL12-8-LD4-3STD-30-UNV-O-EDD-90

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°	7647	7647	7647
5°	7646	7524	7538
10°	7609	7436	7439
15°	7558	7332	7307
20°	7502	7209	7179
25°	7433	7081	7047
30°	7351	6942	6889
35°	7245	6784	6734
40°	7135	6618	6545
45°	7018	6433	6337
50°	6861	6215	6112
55°	6694	5972	5859
60°	6494	5641	5556
65°	6154	5267	5264
70°	5654	4818	4917
75°	4931	4324	4629
80°	3825	3863	4413
85°	2206	3445	4293

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 7018 cd/sqm

TEST NUMBER: P517709

CATALOG NUMBER: HVL12-8-LD4-3STD-30-UNV-O-EDD-90

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	537.9	3.1
10°-20°	1542.8	9.0
20°-30°	2341.0	13.6
30°-40°	2830.6	16.5
40°-50°	2953.5	17.2
50°-60°	2700.4	15.7
60°-70°	2105.1	12.2
70°-80°	1316.8	7.7
80°-90°	598.1	3.5
90°-100°	200.5	1.2
100°-110°	50.3	0.3
110°-120°	7.9	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°	4421.6	25.7
0°-40°	7252.3	42.2
0°-60°	12906.2	75.1
0°-90°	16926.3	98.5
90°-120°	258.7	1.5
90°-150°	258.7	1.5
90°-180°	259.0	1.5
0°-180°	17185.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5684	5684	5684	5684	5684	
5°	5672	5661	5636	5662	5662	539
15°	5456	5465	5451	5481	5480	1540
25°	5055	5059	5065	5108	5116	2329
35°	4475	4495	4514	4560	4578	2801
45°	3765	3799	3829	3867	3886	2901
55°	2938	2973	3028	3072	3092	2625
65°	2019	2054	2125	2210	2244	1998
75°	1022	1085	1243	1392	1444	1090
85°	177	327	561	742	808	224
90°	1	122	331	497	557	7
95°	1	32	172	311	359	1
105°	3	4	28	83	111	3
115°	4	4	5	15	21	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

TEST NUMBER: P517709

CATALOG NUMBER: HVL12-8-LD4-3STD-30-UNV-O-EDD-90

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	5683.8	5683.8	5683.8	5683.8	5683.8
2.5°	5690.5	5682.4	5657.0	5682.4	5681.1
5°	5671.7	5661.0	5635.5	5662.3	5662.3
7.5°	5634.2	5630.2	5607.4	5638.2	5638.2
10°	5590.0	5588.6	5569.9	5603.4	5604.7
12.5°	5528.3	5533.7	5516.3	5548.4	5552.5
15°	5456.0	5465.4	5450.6	5481.4	5480.1
17.5°	5376.9	5382.3	5371.6	5406.4	5405.1
20°	5279.1	5285.8	5277.8	5314.0	5318.0
22.5°	5170.6	5180.0	5178.6	5216.1	5226.9
25°	5055.4	5059.4	5064.7	5107.6	5115.7
27.5°	4928.1	4934.8	4944.1	4983.0	4991.0
30°	4788.7	4799.4	4810.2	4850.4	4861.1
32.5°	4641.3	4652.1	4665.5	4717.7	4723.1
35°	4475.2	4495.3	4514.0	4559.6	4578.4
37.5°	4309.0	4334.5	4351.9	4400.2	4414.9
40°	4133.5	4159.0	4187.1	4238.0	4247.4
42.5°	3950.0	3979.4	4012.9	4058.5	4074.6
45°	3765.1	3798.6	3829.4	3866.9	3885.6
47.5°	3565.4	3598.9	3636.4	3679.3	3691.4
50°	3359.1	3397.9	3438.1	3478.3	3499.8
52.5°	3147.4	3194.3	3239.8	3282.7	3302.8
55°	2938.4	2973.2	3028.1	3072.3	3092.4
57.5°	2721.3	2750.8	2800.3	2872.7	2883.4
60°	2500.2	2527.0	2577.9	2636.9	2661.0
62.5°	2256.4	2292.5	2346.1	2421.2	2442.6
65°	2019.2	2054.0	2125.0	2209.5	2244.3
67.5°	1790.1	1802.1	1893.2	1981.7	2038.0
70°	1519.4	1565.0	1670.8	1779.4	1822.2
72.5°	1286.3	1331.8	1448.4	1575.7	1629.3
75°	1022.3	1085.3	1243.4	1392.1	1444.4
77.5°	790.5	860.2	1055.8	1205.9	1266.2
80°	552.0	660.6	873.6	1042.4	1108.1
82.5°	347.0	481.0	708.8	885.7	943.3
85°	176.9	326.9	561.4	742.3	807.9
87.5°	46.9	211.7	436.8	609.6	676.6
90°	1.3	121.9	330.9	497.1	557.4
92.5°	1.3	68.3	246.5	395.3	456.9
95°	1.3	32.2	171.5	310.9	359.1
97.5°	1.3	13.4	117.9	234.5	282.7
100°	1.3	6.7	75.0	170.2	211.7
102.5°	2.7	4.0	46.9	121.9	155.4
105°	2.7	4.0	28.1	83.1	111.2
107.5°	2.7	4.0	16.1	56.3	76.4
110°	4.0	4.0	9.4	34.8	50.9

TEST NUMBER: P517709

CATALOG NUMBER: HVL12-8-LD4-3STD-30-UNV-O-EDD-90

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	4.0	4.0	5.4	22.8	33.5
115°	4.0	4.0	5.4	14.7	21.4
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)