

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: P517982

Luminaire Tested: HVL8-2-LD4-3LO-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: P517982
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-2-LD4-3LO-30-UNV-O-EDD
Description: 2 FOOT, 8 INCH WIDE, HVL LED LUMINAIRE, WITH 3000K, 80 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3194.0 lumens
Efficiency: N/A
Efficacy: 94.8 lumens/watt
Spacing Criteria (0/90/45): 1.25 / 1.27 / 1.38
Luminous Opening: Rectangular w/ Sides (W: 0.67' x L: 2' x H: 0.17')
CIE Type: Direct

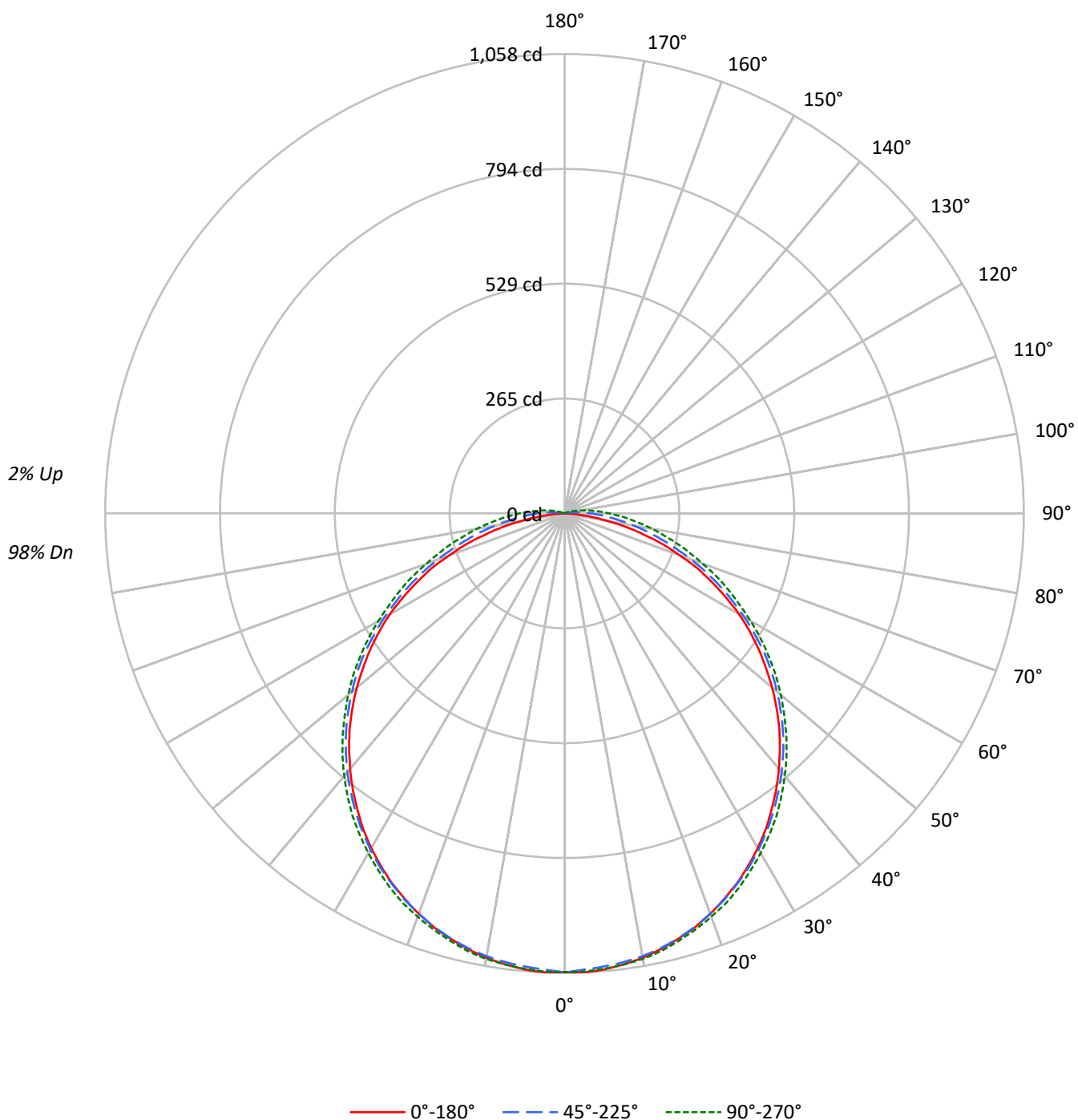
Input Watts (W): 33.7
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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°	8528	8528	8528
5°	8480	8316	8346
10°	8394	8147	8179
15°	8290	7964	7978
20°	8181	7761	7783
25°	8056	7554	7585
30°	7916	7335	7360
35°	7746	7097	7136
40°	7567	6847	6876
45°	7375	6575	6596
50°	7132	6265	6294
55°	6869	5926	5961
60°	6556	5493	5572
65°	6082	5012	5186
70°	5424	4448	4739
75°	4520	3835	4332
80°	3239	3231	3959
85°	1561	2615	3606

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 7375 cd/sqm

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CATALOG NUMBER: HVL8-2-LD4-3LO-30-UNV-O-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	100.0	3.1
10°-20°	286.8	9.0
20°-30°	435.1	13.6
30°-40°	526.1	16.5
40°-50°	548.9	17.2
50°-60°	501.9	15.7
60°-70°	391.3	12.3
70°-80°	244.7	7.7
80°-90°	111.2	3.5
90°-100°	37.3	1.2
100°-110°	9.3	0.3
110°-120°	1.5	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°	821.8	25.7
0°-40°	1347.9	42.2
0°-60°	2398.7	75.1
0°-90°	3145.9	98.5
90°-120°	48.0	1.5
90°-150°	48.0	1.5
90°-180°	48.0	1.5
0°-180°	3194.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1056	1056	1056	1056	1056	
5°	1054	1052	1047	1052	1052	100
15°	1014	1016	1013	1019	1018	286
25°	940	940	941	949	951	433
35°	832	836	839	847	851	521
45°	700	706	712	719	722	539
55°	546	553	563	571	575	488
65°	375	382	395	411	417	371
75°	190	202	231	259	268	203
85°	33	61	104	138	150	42
90°	0	23	62	92	104	1
95°	0	6	32	58	67	0
105°	0	1	5	15	21	1
115°	1	1	1	3	4	0
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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CATALOG NUMBER: HVL8-2-LD4-3LO-30-UNV-O-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1056.4	1056.4	1056.4	1056.4	1056.4
2.5°	1057.6	1056.1	1051.4	1056.1	1055.9
5°	1054.1	1052.1	1047.4	1052.4	1052.4
7.5°	1047.2	1046.4	1042.2	1047.9	1047.9
10°	1039.0	1038.7	1035.2	1041.4	1041.7
12.5°	1027.5	1028.5	1025.3	1031.2	1032.0
15°	1014.0	1015.8	1013.1	1018.8	1018.5
17.5°	999.4	1000.4	998.4	1004.8	1004.6
20°	981.2	982.4	980.9	987.7	988.4
22.5°	961.0	962.7	962.5	969.5	971.5
25°	939.6	940.3	941.3	949.3	950.8
27.5°	915.9	917.2	918.9	926.1	927.6
30°	890.0	892.0	894.0	901.5	903.5
32.5°	862.6	864.6	867.1	876.8	877.8
35°	831.8	835.5	839.0	847.4	850.9
37.5°	800.9	805.6	808.8	817.8	820.6
40°	768.3	773.0	778.2	787.7	789.4
42.5°	734.1	739.6	745.8	754.3	757.3
45°	699.8	706.0	711.7	718.7	722.2
47.5°	662.7	668.9	675.9	683.8	686.1
50°	624.3	631.5	639.0	646.5	650.5
52.5°	585.0	593.7	602.2	610.1	613.9
55°	546.1	552.6	562.8	571.0	574.8
57.5°	505.8	511.3	520.5	533.9	535.9
60°	464.7	469.7	479.1	490.1	494.6
62.5°	419.4	426.1	436.1	450.0	454.0
65°	375.3	381.8	395.0	410.6	417.1
67.5°	332.7	334.9	351.9	368.3	378.8
70°	282.4	290.9	310.5	330.7	338.7
72.5°	239.1	247.5	269.2	292.9	302.8
75°	190.0	201.7	231.1	258.7	268.5
77.5°	146.9	159.9	196.2	224.1	235.3
80°	102.6	122.8	162.4	193.7	205.9
82.5°	64.5	89.4	131.7	164.6	175.3
85°	32.9	60.8	104.3	138.0	150.2
87.5°	8.7	39.3	81.2	113.3	125.8
90°	0.2	22.7	61.5	92.4	103.6
92.5°	0.2	12.7	45.8	73.5	84.9
95°	0.2	6.0	31.9	57.8	66.7
97.5°	0.2	2.5	21.9	43.6	52.5
100°	0.2	1.2	13.9	31.6	39.3
102.5°	0.5	0.7	8.7	22.7	28.9
105°	0.5	0.7	5.2	15.4	20.7
107.5°	0.5	0.7	3.0	10.5	14.2
110°	0.7	0.7	1.7	6.5	9.5

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.7	0.7	1.0	4.2	6.2
115°	0.7	0.7	1.0	2.7	4.0
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)